Source: T1

Title: CR's to TS 34.123-1 v4.1.0 on corrections

Agenda item: 5.1.3

Document for: Approval

This document contains 29 CRs to TS 34.123-1 v4.1.0 on corrections to existing test cases. These CRs have been agreed by T1 and are put forward to TSG T for approval.

NOTE: TS 34.123-1 R99 and TS 34.123-1 Rel-4 were merged at T#13. This means that test cases for both releases are included in TS 34.123-1 Rel-4 and therefore this is the only release being maintained.

CR related to corrections to idle mode test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	131		Rel-4	Update of Idle mode tests	F	4.1.0	4.2.0	T1-020038	TEI	R99, Rel-4

CR related to corrections to MAC and RLC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	140		Rel-4	Changes to MAC conformance test 7.1.1.1	F	4.1.0	4.2.0	T1-020047	TEI	R99, Rel-4
34.123-1	141		Rel-4	Changes to MAC conformance test 7.1.1.2	F	4.1.0	4.2.0	T1-020048	TEI	R99, Rel-4
34.123-1	142		Rel-4	Changes to MAC conformance test 7.1.1.3	F	4.1.0	4.2.0	T1-020049	TEI	R99, Rel-4
34.123-1	143		Rel-4	Changes to MAC conformance test 7.1.1.4	F	4.1.0	4.2.0	T1-020050	TEI	R99, Rel-4
34.123-1	144		Rel-4	Changes to MAC conformance test 7.1.1.5	F	4.1.0	4.2.0	T1-020051	TEI	R99, Rel-4
34.123-1	145		Rel-4	Changes to MAC conformance test 7.1.1.8	F	4.1.0	4.2.0	T1-020052	TEI	R99, Rel-4
34.123-1	146		Rel-4	Changes to MAC conformance test 7.1.2.2.1	F	4.1.0	4.2.0	T1-020053	TEI	R99, Rel-4
34.123-1	147		Rel-4	Changes to MAC conformance test 7.1.2.4	F	4.1.0	4.2.0	T1-020054	TEI	R99, Rel-4
34.123-1	148		Rel-4	Changes to MAC conformance test 7.1.2.5	F	4.1.0	4.2.0	T1-020055	TEI	R99, Rel-4
34.123-1	149		Rel-4	Changes to MAC conformance test 7.1.3.1	F	4.1.0	4.2.0	T1-020056	TEI	R99, Rel-4
34.123-1	159		Rel-4	Correction of MAC conformance test 7.1.2.1.1	F	4.1.0	4.2.0	T1-020089	TEI	R99, Rel-4
34.123-1	160		Rel-4	Correction of MAC conformance test 7.1.2.3.1	F	4.1.0	4.2.0	T1-020090	TEI	R99, Rel-4
34.123-1	150		Rel-4	Changes to RLC conformance test 7.2.3.20	F	4.1.0	4.2.0	T1-020057	TEI	R99, Rel-4
34.123-1	151		Rel-4	Changes to RLC conformance test 7.2.3.25	F	4.1.0	4.2.0	T1-020058	TEI	R99, Rel-4

CR related to corrections to PDCP test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	135		Rel-4	Clause 7.3, PDCP testing: Update	F	4.1.0	4.2.0	T1-020042	TEI	R99, Rel-4

CR related to corrections to RRC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	130		Rel-4	Correction to Annex A	F	4.1.0	4.2.0	T1-020037	TEI	R99, Rel-4
34.123-1	133		Rel-4	Corrections to RRC test cases, 8.2.2 onwards	F	4.1.0	4.2.0	T1-020040	TEI	R99, Rel-4
34.123-1	134		Rel-4	Corrections to default message content for FDD in Annex A	F	4.1.0	4.2.0	T1-020041	TEI	R99, Rel-4
34.123-1	136		Rel-4	Corrections to clause 8.1	F	4.1.0	4.2.0	T1-020043	TEI	R99, Rel-4
34.123-1	137		Rel-4	Correction to RRC test cases	F	4.1.0	4.2.0	T1-020044	TEI	R99, Rel-4
34.123-1	138		Rel-4	Corrections to Measurement test cases	F	4.1.0	4.2.0	T1-020045	TEI	R99, Rel-4
34.123-1	154		Rel-4	Section 8.1 Connection Management Procedure (TDD both modes)	F	4.1.0	4.2.0	T1-020061	TEI, LCR-TDD	R99, Rel-4
34.123-1	158		Rel-4	Section 8.2 Radio Bearer Control Procedure (TDD both modes)	F	4.1.0	4.2.0	T1-020065	TEI, LCR-TDD	R99, Rel-4

CR related to corrections to MM, GMM and SM test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Workitem	Releases affected
34.123-1	132		Rel-4	Update to GMM test cases	F	4.1.0	4.2.0	T1-020039	TEI	R99, Rel-4
34.123-1	156		Rel-4	Modifications of MM test cases	F	4.1.0	4.2.0	T1-020063	TEI	R99, Rel-4
34.123-1	152		Rel-4	Modifications on Session Management test case 11.1.1.1	F	4.1.0	4.2.0	T1-020059	TEI	R99, Rel-4
34.123-1	153		Rel-4	Modifications on Session Management test case 11.1.2	F	4.1.0	4.2.0	T1-020060	TEI	R99, Rel-4
34.123-1	155		Rel-4	Modification on Session Management test case 11.1.3.2	F	4.1.0	4.2.0	T1-020062	TEI	R99, Rel-4

3GPP TSG-T1 Meeting #14
Sophia Antipolis, France, 21-22 February 2002

Tdoc T1-020037

3GPP TSG-T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020067

CR-Form-v5

CHANGE REQUEST

⌘	**TS 34.123-1** CR **130**	⌘ **rev**	**-**	⌘	Current version:	**4.1.0**	⌘

*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: ⌘	Correction to Annex A	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	***Date:*** ⌘ 2002-02-12

Category: ⌘ **F**	***Release:*** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	Correction to RRC default messages in Annex A

Summary of change: ⌘	1. ACTIVE SET UPDATE message: AM Activation time changed to 'now'. AM mode is used and if the message is retransmitted the UE could miss the 'real' activation time and wait for the 'next' occurence of that Connection Frame Number (CFN). Activation time in Active Set Update should be 'now'.

2. PHYSICAL CHANNEL RECONFIGURATION (A6)
Changed value on 'Downlink information for each radio link' to 'Not Present' as this information is unnecessary in this messages. 'Downlink information for each radio link' wont force the UE to select a cell. In the worst case, if the selected serving cell does not match the cell indicated by this IE, the UE will perform a CELL UPDATE.

3. RADIO BEARER RELEASE (A6)

- Added IE for 'UL Transport channel information for all transport channels' and 'DL Transport channel information for all transport channels' for case A1, A2, A3 and A4. The message is missing TFCS reconfiguration information. If TFCS is not reconfigured the stored TFCS will not be interpreted correctly. I.e. the CTFC values will not be interpreted correctly (Message is rejected 25.331 8.6.5.2)

- Changed value on 'Downlink information for each radio link' to 'Not Present' as this information is unnecessary in this messages. 'Downlink information for each radio link' wont force the UE to select a cell. In the worst case, if the selected serving cell does not match the cell indicated by this IE, the UE will

		perform a CELL UPDATE.
Consequences if not approved:	⌘	Incorrect RRC default messages which may cause godd UE to fail.

Clauses affected:	⌘	Annex A

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

Other comments:	⌘	Affects R99 and REL-4

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

Annex A (normative): Default RRC Message Contents

A.1 Default RRC Message Contents (FDD)

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: 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	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256now
New U-RNTI	Not Present
CN information info	Not Present
Downlink counter synchronisation info	Not Present
Maximum allowed UL TX power	33dBm
Radio link addition information	Not Present
Radio link removal information	Not Present
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Uplink counter synchronisation info	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	Refer to test requirement

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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
AM_RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM_RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	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
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC State indicator	CELL_FACH
UTRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE
CN information info	Not Present
URA identity	0000 0000 0001B
RB information to release list	Not Present
RB information to reconfigure list	Not Present
RB information to be affected list	Not Present
Downlink counter synchronisation info	Not Present
UL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE Mode	FDD
- CPCH set ID	Not Present
- Added or Reconfigured TrCH information for DRAC list	Not Present
DL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement Identity	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	Not Present
CHOICE Measurement type	Intra-frequency measurement
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN number	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	150
- Primary CPICH Tx power	Not Present
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored cells on used frequency
- Maximum number of reported cells	2
- Measurement validity	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	See the test content

Contents of MEASUREMENT REPORT message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Not present
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the TEST 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 list	
- Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the TEST USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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

Information Element	Condition	Value/remark
Message Type	A1, A2, A3, A4, A5, A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3, A4, A5, A6	Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
Frequency info		
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE *channel requirement*	A1, A2, A3, A4	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	A1, A2, A3, A4, A5, A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset $P_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Condition	Value/remark
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Otherwise
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information for each radio links	A1, A2,A3,A4	
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- 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
- Power offset $P_{Pilot-DPDCH}$		0
- Secondary CPICH info		Not Present
- DL channelisation code		
- Secondary scrambling code		5
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- SCCPCH Information for FACH		Not Present
- Downlink information for each radio link	A6	Not Present
~~- Choice mode~~		~~FDD~~
~~- Primary CPICH info~~		
~~- Primary scrambling code~~		~~150~~
~~- PDSCH with SHO DCH info~~		~~Not Present~~
~~- PDSCH code mapping~~		~~Not Present~~
~~- Downlink DPCH info for each RL~~2		~~Not Present~~
~~- SCCPCH Information for FACH~~		~~Not Present~~

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement

Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A4, A5, A6,A7,A8	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info		The 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.
- Ciphering mode command		Start/restart
- Ciphering algorithm		Use one of the supported ciphering algorithms
- Ciphering activation time for DPCH		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A4,A7,A8	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A4, A5, A6,A7,A8	Not Present
CN information info		Not Present
URA identity		Not Present
Signalling RB information to setup		Not Present
RAB information for setup	A1,A7	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present

Information Element	Condition	Value/remark
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A8	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RB identity		11
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		2
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured

Information Element	Condition	Value/remark
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		7
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RB identity		12
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		8
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A4, A5, A6	
- RAB info		(AM DTCH for PS domain)
- RAB identity		0000 0101B
- CN domain identity		PS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		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
- Timer_RST		500
- Max_RST		4
- Polling info		
- Timer_poll_prohibit		200
- Timer_poll		200
- Poll_SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU 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 PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		2 RBMuxOptions
- RLC logical channel mapping indicator		Not Present

Information Element	Condition	Value/remark
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- UL Transport channel identity		Not Present
- Logical channel identity		7
- CHOICE RLC size list		~~Configured~~Excplicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		6
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- DL DCH Transport channel identity		Not Present
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		~~Not Present~~7
RB information to be affected	A1, A4, A5, A6,A7,A8	Not Present
Downlink counter synchronisation info	A1, A4, A5, A6,A7,A8	Not Present
UL Transport channel information for all transport channels	A1,A4,A7, A8	
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure information		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10 Parameter Set
- CTFC		Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to Signalled Gain Factors)
- Gain factor βc		TBD(Not Present if the CHOICE Gain Factors is set to Signalled Gain Factors)
- Gain factor βd		TBD(Not Present if the CHOICE Gain Factors is set to Signalled Gain Factors)
- Reference TFC ID		0
- CHOICE mode		FDD
- Power offset P p-m		Not Present
UL Transport channel information for all transport channels	A5, A6	Not Present
- PRACH TFCS		
- CHOICE mode		
- TFC subset		
- UL DCH TFCS		

Information Element	Condition	Value/remark
Deleted UL TrCH information	A1, A4, A5, A6,A7,A8	Not Present
Added or Reconfigured UL TrCH information	A1	
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter

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Information Element	Condition	Value/remark
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		2
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All

Information Element	Condition	Value/remark
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE mode		FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
Added or Reconfigured UL TrCH information	A5, A6	Not Present
CHOICE *mode*	A1, A4, A5, A6,A7,A8	FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
DL Transport channel information common for all transport channel	A1,A7,A8	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		SameasUL
DL Transport channel information common for all transport channel	A4	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		Explicit
- DL DCH TFCS		
- CHOICE TFCI Signalling		Normal
- TFCI Field 1 Information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from clause TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10
- CTFC		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
- Power offset information		Not Present
DL Transport channel information common for all transport channel	A5, A6	Not Present
- SCCPCH TFCS		
- CHOICE mode		
- CHOICE DL parameters		
Deleted DL TrCH information	A1, A4, A5, A6,A7,A8	Not Present
Added or Reconfigured DL TrCH information	A1	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		1
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6

Information Element	Condition	Value/remark
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		7
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		8
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter

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Information Element	Condition	Value/remark
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		Not Present
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A5, A6	Not Present
Frequency info	A1, A4, A5, A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1, A4, A5, A6	33dBm
CHOICE channel requirement	A1, A4	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE channel requirement	A5,A6	Not Present
CHOICE Mode	A1, A4, A5, A6,A7,A8	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1, A4,A7,A8	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset $P_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Otherwise
- CHOICE mode		FDD
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A5,A6	Not Present
Downlink information for each radio link list	A1,A4,A7, A8	

Information Element	Condition	Value/remark
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- 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
- DL channelisation code		
- Secondary scrambling code		1
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A5	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A6	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech from CELL_DCH to CELL_DCH in CS"
A2 is defined in TS34.108 clause 9.	This IE need for "Speech from CELL_DCH to CELL_DCH in CS"
A3 is defined in TS34.108 clause 9.	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"
A7	This IE need for "Non speech from CELL_FACH to CELL_DCH in CS"
A8	This IE need for "Speech from CELL_FACH to CELL_DCH in CS"

Contents of RADIO BEARER SETUP FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER SETUP message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1,A2,A3, A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3, A4,A5,A6	Not Present
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)

Information Element	Condition	Value/remark
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A2	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		11
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
		(This IE is needed for 12.2 kbps and 10.2

Information Element	Condition	Value/remark
- RB identity		kbps)
- PDCP info		12
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A3,A4,A5, A6	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DTCH)
- RB identity		20
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to be affected	A1, A2, A3,A4,A5, A6	Not Present
UL Transport channel information for all transport channels	A1, A2, A3, A4,A5,A6	Not Present
Deleted UL TrCH information	A1, A2, A3, A4, A5,A6	Not Present
Added or Reconfigured UL TrCH information	A1, A2, A3, A4, A5,A6	Not Present
CHOICE mode	A1,A2,A3, A4,A5,A6	FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
DL Transport channel information common for all transport channel	A1, A2, A3, A4,A5, A6	Not Present
Deleted DL TrCH information	A1, A2, A3, A4, A5,A6	Not Present
Added or Reconfigured DL TrCH information	A1, A2, A3, A4,A5, A6	Not Present

Information Element	Condition	Value/remark
Frequency info	A1,A2,A3, A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3, A4,A5,A6	33dBm
CHOICE channel requirement	A1, A2, A3, A4	Uplink DPCH info
-Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE channel requirement	A5, A6	Not Present
CHOICE Mode	A1,A2,A3, A4,A5,A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P$_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Otherwise
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information per radio link list	A1, A2, A3, A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- 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		

Information Element	Condition	Value/remark
- Secondary scrambling code		2
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH Information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- Secondary CCPCH info		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

.

Contents of RADIO BEARER RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded List	Not checked

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM

Information Element		Value/remark
Message Type	A1,A2,A3,A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1,A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3,A4,A5,A6	Not Present
CN information info		Not Present
Signalling Connection release indication		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to release - RB identity	A1,A2	 10
RB information to release - RB identity	A2	 11
RB information to release - RB identity	A2	 12
RB information to release - RB identity	A3, A4, A5, A6	 20
RB information to be affected	A1,A2, A3,A4,A5, A6	Not Present
Downlink counter synchronisation info	A1,A2,A3,A4,A5,A6	Not Present
UL Transport channel information for all transport channels	A1, A2, A3, A4	TFCS reconfigured to fit the new transport channel configuration.
UL Transport channel information for all transport channels	~~A1,A2, A3, A4,~~A5, A6	Not Present

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A1,A2, A3, A4	
		DCH
		1

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A2	
		DCH
		2

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A2	
		DCH
		3

Deleted UL TrCH Information	A5,A6	Not Present
Added or Reconfigured UL TrCH information	A1,A2, A3,A4 A5, A6	Not Present
DL Transport channel information for all transport channels	A1, A2, A3, A4,	TFCS reconfigured to fit the new transport channel configuration.
DL Transport channel information for all transport channels	A5, A6	Not Present

Deleted DL TrCH Information
   - Downlink transport channel type
   - Transport channel identity
	A1,A2, A3,A4	
		DCH
		6

Deleted DL TrCH Information
   - Downlink transport channel type
   - Transport channel identity
	A2	
		DCH
		7

Information Element		Value/remark
Deleted DL TrCH Information	A2	
- Downlink transport channel type		DCH
- Transport channel identity		8
Deleted DL TrCH Information	A5,A6	Not Present
Added or Reconfigured DL TrCH information	A1,A2, A3, A4,A5, A6	Not Present
Frequency info	A1,A2,A3,A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE channel requirement	A1,A2,A3,A4	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	A1,A2,A3,A4,A5,A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1,A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P$_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Otherwise
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1,A2,A3,A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- 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		

Information Element		Value/remark
- DL channelisation code		
- Secondary scrambling code		3
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A6	Not Present
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RELEASE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RELEASE message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Initial UE identity	Select the same type as in the IE "Initial UE Identity" in RRC CONNECTION REQUEST" message.
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	Select the same identity as in the IE "Initial UE Identity" in received RRC CONNECTION REQUEST" message
RRC transaction identifier	0
Activation time	Not Present (Now)
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
RRC state indicator	CELL_FACH
UTRAN DRX cycle length coefficient	9
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	Timer based no explicit
- Timer discard	50
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	1
- CHOICE RLC size list	Configured

Information Element	Value/remark
- MAC logical channel priority	1
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	1
- CHOICE RLC size list	~~Configured~~Explicit List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	2
- CHOICE RLC size list	Configured
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	2
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	2

Information Element	Value/remark
- CHOICE RLC size list	~~Configured~~Explicit List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	3
- CHOICE RLC size list	Configured
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	3
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL DCH Transport channel identity	Not Present
- Logical channel identity	3
- CHOICE RLC size list	~~Configured~~Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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

Information Element	Value/remark
- 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	4
- CHOICE RLC size list	Configured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	4
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	4
- CHOICE RLC size list	~~Configured~~Explicit List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	5
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	4
UL Transport channel information for all transport channels	Not Present
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1"
- Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- TFS	
- CHOICE Transport channel type	Delicated transport channels
- Dynamic Transport format information	
- RLC Size	Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Value/remark
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter 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	Not Present(Refer to SIB type 5)
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1"
- Added or Reconfigured DL TrCH information	
- Downlink transport channel type	DCH
- DL Transport channel identity	10
- CHOICE DL parameters	Same as UL
- Uplink Transport channel type	DCH
- UL TrCH identity	5
- DCH quality target	Not Present
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink (Nu)	Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)	Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE channel requirement	Not Present
Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
- Downlink information for each radio link	
- Choice mode	FDD
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not present
- SCCPCH information for FACH	Not Present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Identification of received message	Not Checked
Protocol error information	
- Protocol error cause	Refer to test requirement.

Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	Refer to test requirement.

Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3, A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3, A4,A5,A6	Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport channels	A1, A2, A3,A4, A5, A6	Not Present
Added or Reconfigured UL TrCH information	A1, A2, A3, A4,A5, A6	Not Present
CHOICE mode	A1,A2,A3, A4,A5,A6	FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
DL Transport channel information common for all transport channel	A1, A2, A3, A4, A5,A6	Not Present
Added or Reconfigured DL TrCH information	A1, A2, A3, A4,A5, A6	Not Present
Frequency info	A1,A2,A3, A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3, A4,A5,A6	33dBm

Information Element	Condition	Value/remark
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE channel requirement -Uplink DPCH power control info - DPCCH power offset - PC Preamble - SRB delay - 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	A1, A2, A3, A4	Uplink DPCH info -6dB 1 frame 7 frames Algorithm1 1dB Long 0 (0 to 16777215) Not Present(1) 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
CHOICE Mode - Downlink PDSCH information	A1,A2,A3, A4,A5,A6	FDD Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links - Downlink DPCH info common for all RL - Timing indicator - CFN-targetSFN frame offset - Downlink DPCH power control information - DPC mode - CHOICE mode - Power offset $P_{Pilot-DPDCH}$ - DL rate matching restriction information - Spreading factor - Fixed or Flexible Position - TFCI existence - CHOICE SF - DPCH compressed mode info - TX Diversity mode - SSDT information - Default DPCH Offset Value	A1, A2, A3, A4	 Maintain Not Present 0 (single) FDD 0 Not Present 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 Otherwise Not Present None Not Present Not Present
Downlink information for each radio link list - Downlink information for each radio links - CHOICE mode - Primary CPICH info - Primary scrambling code - PDSCH with SHO DCH info - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Power offset $P_{Pilot-DPDCH}$ - Secondary CPICH info - DL channelisation code - Secondary scrambling code - Spreading factor - Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode	A1, A2, A3, A4	 FDD 100 Not Present Not Present Primary CPICH may be used 0 chips 0 Not Present 4 Reference to TS34.108 clause 6.10 Parameter Set 0 No change 0 Not Present Not Present

Information Element	Condition	Value/remark
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement

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

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
CHOICE mode	FDD
DPCH/PUSCH TFCS in Uplink	
- CHOICE *Subset representation*	Allowed transport format combination list
- Allowed Transport format combination	0 (The TFC is constructed from ALL TF0)
Activation time for TFC subset	Not Present
TFC Control duration	Not Present

Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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 FDD capability update requirement	TRUE
- UE radio access TDD capability update requirement	FALSE
- System specific capability update requirement list	Not Present

Contents of UE CAPABILITY INFORMATION message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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 FDD	
- RF Capability TDD	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE radio access capability extension	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
UE system specific capability	Not Checked

Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

Contents of URA 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
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

A.2 Default RRC Message Contents (3.84 Mcps TDD)

[FFS]

A.3 Default RRC Message Contents (1.28 Mcps TDD)

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 CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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
AM_RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM_RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	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
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC State indicator	CELL_FACH
UTRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE
CN information info	Not Present
URA identity	0000 0000 0001B
RB information to release list	Not Present
RB information to reconfigure list	Not Present
RB information to be affected list	Not Present
Downlink counter synchronisation info	Not Present
UL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE mode	TDD
DL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	TDD
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting Mode	Periodical reporting
Additional measurement list	Not Present
CHOICE Measurement type	Intra-frequency measurement
- 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
- Read SFN number	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
-CHOICE mode	TDD
-CHOICE TDD option	1.28 Mcps TDD
-TSTD indicator	TRUE
-Cell parameters ID	4
-Block STTD indicator	TRUE
- Primary CCPCH TX power	Not Present
- Timeslot List	Not Present
- Intra-frequency measurement quantity	
- Filter coefficient	0
- CHOICE mode	TDD
- Measurement quantity list	
- Measurement quantity	Primary CCPCH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CHOICE mode	TDD
- Timeslot ISCP reporting indicator	FALSE
- Proposed TGSN Reporting required	FALSE
- Primary CCPCH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CHOICE mode	TDD
- Timeslot ISCP reporting indicator	FALSE
- Proposed TGSN Reporting required	FALSE
- Primary CCPCH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored cells on

	used frequency .
- Maximum number of reported cells	2
- Measurement validity	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	**Value/remark**
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	See the test content

Contents of MEASUREMENT REPORT message: AM

Information Element	**Value/remark**
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Not present
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
- CHOICE mode	Checked that this is TDD
- Cell parameters Id	4
- Proposed TGSN	Checked that this IE is absent
- Primary CCPCH RSCP	Checked that this IE is present.
- Pathloss	Checked that this IE is absent
- Timeslot list	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet 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	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet 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	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
Frequency info		
-CHOICE mode		TDD
- UARFCN(Nt)		Reference to TS34.108 clause 5.1 Parameter set.
Maximum allowed UL TX power		30dBm
CHOICE channel requirement		Uplink DPCH info
Uplink DPCH info	A1, A2, A3, A4	
- CHOICE mode		TDD
- Uplink DPCH power control info		
- UL Target SIR		Reference to TS34.108
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1 dB
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 clause 6 Parameter Set.
- TFCI coding		Reference to TS34.108 clause 6 Parameter Set.
- Puncturing Limit		Reference to TS34.108 clause 6 Parameter Set.
- Repetition Period		Reference to TS34.108 clause 6 Parameter Set.
- Repetition Length		Reference to TS34.108 clause 6 Parameter Set
- Uplink DPCH timeslots and codes		
- First timeslot information		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps

3GPP

- Midamble Allocation Mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each channelisation code assigned in the slot to meet the needs of TS34.108 clause 6 Parameter Set.
- Channelisation Code		(i/SF) where i denotes an unassigned code matching the SF specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on the number of resources specified in TS34.108 section 6 and the number of slots in which they are assigned.
CHOICE Mode		TDD
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
-CHOICE mode		TDD
-TPC Step Size		1
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Default DPCH Offset Value		Not Present
Downlink information for each radio links		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108
- TFCI coding		TRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter Set
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- First Individual timeslot info		
- Individual timeslot info		
- Timeslot number		The number of an downlink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code that is being assigned and SF is specified in TS34.108 clause 6 Parameter Set.
- Last channelisation code		(j/SF) where j is the highest numbered code that is being assigned in the slot.

- Bitmap - CHOICE more timeslots		Bitmap of codes that are assigned in the slot. The presence of this IE depends upon whether the requirements of TS34.108 Parameter Set can be met by the codes that have been assigned in the first timeslot.
- Secondary CCPCH info		Not Present
- References to system information blocks		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info		The 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.
- Ciphering mode command		Start
- Ciphering algorithm		Use one of the supported ciphering algorithms
- Ciphering activation time for DPCH		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
Signalling RB information to setup		Not Present
RAB information for setup	A1	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		
- T314		20 seconds
- RB information to setup		
- RB identity		10
- PDCP info		Not Present
- CHOICE RLC info type		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		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		7
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- Logical channel identity		7
RAB information for setup	A2	
- RAB info		

- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronisation Indicator		Not Present
- Re-establishment timer		
- T314		20 seconds
- RB information to setup		
- RB identity		10
- PDCP info		Not Present
- CHOICE RLC info type		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
- UL Transport channel identity		1
- Logical channel identity		7
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- Logical channel identity		7
- RB information to setup		
- RB identity		11
- PDCP info		Not Present
- CHOICE RLC info type		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
- UL Transport channel identity		2
- Logical channel identity		8
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		7
- Logical channel identity		8
- RB information to setup		(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity		12
- PDCP info		Not Present
- CHOICE RLC info type		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
- UL Transport channel identity		3
- Logical channel identity		9
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		

- Number of RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		8
- Logical channel identity		9
RAB information for setup	A3, A4	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		PS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		
- T314		20 seconds
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- 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
- Timer_RST		500
- Max_RST		4
- Polling info		
- Timer_poll_prohibit		200
- Timer_poll		200
- Poll_SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU 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 PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		7
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- Logical channel identity		7
RAB information for setup	A5, A6	
- RAB info		(AM DTCH for PS domain)
- RAB identity		0000 0001B
- CN domain identity		PS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		
- T314		20 seconds
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		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
- Timer_RST		500
- Max_RST		4
- Polling info		
- Timer_poll_prohibit		200
- Timer_poll		200
- Poll_SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU 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 PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		7
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		6
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		6
RB information to be affected	A1, A2, A3, A4	(UM DCCH for RRC)
- RB identity		1
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		1
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		1
RB information to be affected	A1, A2, A3, A4	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		2
- CHOICE RLC size list		All
- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		2
RB information to be affected	A1, A2, A3, A4	(AM DCCH for NAS_DT High priority)

- RB identity		3
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		3
- CHOICE RLC size list		All
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		3
RB information to be affected	A1, A2, A3, A4	(AM DCCH for NAS_DT Low priority)
- RB identity		4
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		4
- CHOICE RLC size list		All
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		4
RB information to be affected	A5, A6	(UM DCCH for RRC)
- RB identity		1
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		1
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		1
RB information to be affected	A5, A6	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		2
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		2
RB information to be affected	A5, A6	(AM DCCH for NAS_DT High priority)
- RB identity		3
- RB mapping info		
- Information for each multiplexing option		

- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		3
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		3
RB information to be affected	A5, A6	(AM DCCH for NAS_DT Low priority)
- RB identity		4
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		4
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		5
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		4
RB information to be affected	A5, A6	(TM BCCH for RRC)
- RB identity		6
- RB mapping info		
- Information for each multiplexing option		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		5
- Downlink RLC logical channel info		Not Present
RB information to be affected	A5 or A6	(TM PCCH for RRC)
- RB identity		7
- RB mapping info		
- Information for each multiplexing option		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		1
- Downlink RLC logical channel info		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport channels	A1, A2,A3, A4	
- PRACH TFCS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared Channel Indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete
- TFCS complete reconfigure information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6.
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	
- 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 Parameter Set.)
- PRACH TFCS		(This IE is repeated for TFC number.)

- CHOICE TFCI signalling
   - TFCI Field 1 information
    - CHOICE TFCS representation
     - TFCS complete reconfigure information
      - CHOICE TFCS Size
 	
      - CTFC information
- CHOICE mode
- Individual UL CCTrCH information
		Normal
		
		Number of used bits must be enough to cover all combinations of CTFC from clauses 6. Refer to TS34.108 clause 6 Parameter Set
		Not Present
		TDD
		Not Present

Deleted UL TrCH information
  - Uplink transport channel type
  - Transport channel identity
	A4	
		DCH
		15

Deleted UL TrCH information
  - Uplink transport channel type
  - UL Transport channel identity
  - Uplink transport channel type
  - UL Transport channel identity
	A5	
		DCH
		1
		DCH
		5

Added or Reconfigured UL TrCH information
 	
  - Uplink transport channel type
  - UL Transport channel identity
  - TFS
  - CHOICE Transport channel type
  - Dynamic Transport format information
   - RLC Size
 	
   - Number of TBs and TTI List
   - Transmission Time Interval
   - Number of Transport blocks
 	
   - CHOICE Logical Channel list
  - Semi-static Transport Format information
   - Transmission time interval
 	
   - Type of channel coding
 	
   - Coding Rate
 	
   - Rate matching attribute
 	
   - CRC size
	A1, A2, A3, A4	
		
		DCH
		1
		
		Dedicated transport channels
		(This IE is repeated for TFI number)
		Reference to TS34.108 clause 6 Parameter Set
		(This IE is repeated for TFI number.)
		Not Present
		Reference to TS34.108 clause 6 Parameter Set
		
		ALL
		
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set

Added or Reconfigured UL TrCH information
 	
  - Uplink transport channel type
  - UL Transport channel identity
  - TFS
  - CHOICE Transport channel type
  - Dynamic Transport format information
   - RLC Size
 	
   - Number of TBs and TTI List
   - Transmission Time Interval
   - Number of Transport blocks
 	
   - CHOICE Logical Channel list
  - Semi-static Transport Format information
   - Transmission time interval
 	
   - Type of channel coding
 	
   - Coding Rate
 	
   - Rate matching attribute
 	
   - CRC size
	A1, A2, A3, A4	If TrCH reconfiguration is executed then this is needed (e.g. The rate of SRB for DCCH is changed.).
		DCH
		5
		
		Dedicated transport channels
		(This IE is repeated for TFI number)
		Reference to TS34.108 clause 6 Parameter Set
		(This IE is repeated for TFI number.)
		Not Present
		Reference to TS34.108 clause 6 Parameter Set
		
		ALL
		
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter Set
		Reference to TS34.108 clause 6 Parameter

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		Set

Added or Reconfigured UL TrCH information
   - Uplink transport channel type
   - UL Transport channel identity
   - TFS
    - CHOICE Transport channel type
    - Dynamic Transport format information
     - RLC size
     - Number of TBs and TTI List
      - Transmission Time Interval
      - Number of transport blocks
     - CHOICE Logical Channel List
    - Semi-static Transport Format information
     - Transmission time interval
     - Type of channel coding
     - Coding Rate
     - Rate matching attribute
     - CRC size
	A2	
		DCH
		2
		
		Dedicated transport channels
		(This IE is repeated for TFI number)
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Not Present
		Reference to clause 6 Parameter Set
		All
		
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set

Added or Reconfigured UL TrCH information
 	
   - Uplink transport channel type
   - UL Transport channel identity
   - TFS
    - CHOICE Transport channel type
    - Dynamic Transport format information
     - RLC size
     - Number of TBs and TTI List
     - Transmission Time Interval
     - Number of transport blocks
    - CHOICE Logical Channel List
    - Semi-static Transport Format information
    - Transmission time interval
    - Type of channel coding
    - Coding Rate
    - Rate matching attribute
    - CRC size
	A2	(This IE is needed for 12.2 kbps and 10.2 kbps)
		DCH
		3
		(This IE is repeated for TFI number)
		Dedicated transport channels
		
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Not Present
		Reference to clause 6 Parameter Set
		All
		
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set

DL Transport channel information common for all transport channel
   - SCCPCH TFCS
   - CHOICE mode
   - Individual DL CCTrCH information
    - DL TFCS Identity
     - TFCS Id
     - Shared Channel Indicator
   - CHOICE DL parameters
    - DL DCH TFCS
    - CHOICE TFCI signalling
     - TFCI Field 1 information
      - CHOICE TFCS representation
       - TFCS complete reconfigure information
       - CHOICE CTFC Size
       - CTFC information
	A1,A2,A3, A4	
		
		Not Present
		TDD
		
		1
		FALSE
		Independent
		(This IE is repeated for TFC number.)
		Normal
		
		Complete
		
		Refer to TS34.108 clause 6.
		Refer to TS34.108 clause 6.

DL Transport channel information common for all transport channel
   - SCCPCH TFCS
   - CHOICE TFCI signalling
    - TFCI Field 1 information
     - CHOICE TFCS representation
     - TFCS addition information
      - CHOICE CTFC Size
 	
      - CTFC information
     - Power offset information
   - CHOICE mode
    - IndividualDL CCTrCH information
	A5, A6	
		
		(This IE is repeated for TFC number.)
		Normal
		
		Addition
		
		Number of bits used must be enough to cover all combinations of CTFC from clause 6.
		Refer to TS34.108 clause 6 Parameter Set
		Not Present
		TDD
		Not Present

Deleted DL TrCH information
   - Downlink transport channel type
   - Transport channel identity
	A4	
		DCH
		12

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- Downlink transport channel type		DCH
- Transport channel identity		13
- Downlink transport channel type		DCH
- Transport channel identity		14
Deleted DL TrCH information	A5	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- Downlink transport channel type		DCH
- Transport channel identity		10
Added or Reconfigured DL TrCH information	A1,A2	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		1
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A1, A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A2	
- Downlink transport channel type		DCH
- Transport channel identity		7
- CHOICE DL parameters		SameAsUL
- Uplink transport channel type		DCH
- UL TrCH identity		2
Added or Reconfigured DL TrCH information	A2	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Downlink transport channel type		DCH
- Transport channel identity		8
- CHOICE DL parameters		SameAsUL
- Uplink transport channel type		DCH
- UL TrCH identity		3
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A3, A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit

- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Frequency info		
- CHOICE mode		TDD
- UARFCN (Nt)		Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UL TX power		30dBm
CHOICE channel requirement	A1, A3, A4	Uplink DPCH info
- Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Reference to TS34.108 Parameter set.
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps
- TPC step size		1 dB
- Primary CCPCH Tx Power		Not Present
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS Id		1
- Time info		
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 clause 6 Parameter Set.
- TFCI coding		Reference to TS34.108 clause 6 Parameter set.
- Puncturing Limit		Reference to TS34.108 clause 6 Parameter set.
- Repetition Period		Reference to TS34.108 clause 6 Parameter set.
- Repetition Length		Reference to TS34.108 clause 6 Parameter set.
- Uplink DPCH timeslots and code		
- First individual timeslot info		
- Timeslot number		The number of an uplink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		Repeated (1,2) for each channelisation code

- Channelisation code		assigned in the slot to meet the needs of TS34.108 clause 6 Parameter Set. (i/SF) where i denotes an unassigned code matching the SF specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends upon the number of resources specified in TS34.108 section 6 and the number of slots in which they are being assigned.
CHOICE channel requirement	A2	Uplink DPCH info
- Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Reference to TS34.108 Parameter set.
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps
- TPC step size		1 dB
- Primary CCPCH Tx Power		Not Present
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS Id		1
- Time info		
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 section 6 Parameter set.
- TFCI coding		Reference to TS34.108 section 6 Parameter set.
- Puncturing Limit		Reference to TS34.108 section 6 Parameter set.
- Repetition Period		Reference to TS34.108 clause 6 Parameter set.
- Repetition Length		Reference to TS34.108 clause 6 Parameter set.
- Uplink DPCH timeslots and code		
- First individual timeslot info		The number of an uplink timeslot that has unassigned codes.
- Timeslot number		
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		Repeated (1,2) for each channelisation code assigned in the slot to meet the needs of TS34.108 clause 6 Parameter Set.
- Channelisation code		(i/SF) where i denotes an unassigned code matching the SF specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends upon the number of resources specified in TS34.108 section 6 and the number of slots in which they are being assigned.
CHOICE Mode		TDD
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- CHOICE mode		TDD
- TPC step size		1 dB
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps

- TSTD indicator		TRUE
- Default DPCH offset value		0
Downlink information for each radio link list	A1, A2, A3, A4	
- Downlink information for each radio link		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFN mod 8 + 8))mod 256
- Duration		infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108
- TFCI coding		TRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter Set
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- Individual timeslot info		
- Timeslot number		The number of a downlink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code that is being assigned and SF is specified in TS34.108 clause 6 Parameter Set..
- Last channelisation code		(j/SF) where j is the highest numbered code that is being assigned in the slot.
- Bitmap		Bitmap of the codes that are being assigned in the slot.
- CHOICE more timeslots		The presence of this IE depends upon whether the requirements of TS34.108 clause 6 Parameter Set could be met by the codes that have been assigned in the first timeslot..
- UL CCTrCH TPC List		Not Present
-SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A5, A6	
- Downlink information for each radio link		
- Choice mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		TRUE
- Downlink DPCH info for each RL		Not Present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1, A2, A3	Not Present
RB information to reconfigure list	A4	
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		1
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		1
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		5
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		2
- CHOICE RLC size list		All
- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		2
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)

- RB identity		3
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		3
- CHOICE RLC size list		All
- MAC logical channel priority		3
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		3
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- RLC info		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		4
- CHOICE RLC size list		All
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		4
- RB information to reconfigure		(AM DTCH)
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		7
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- Logical channel identity		7
- RB stop/continue		Not Present
RB information to reconfigure list	A5,A6	
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		1
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set

- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		1
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		2
- CHOICE RLC size list		Explicit List
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		2
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		3
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		3
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		4
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		5
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		4
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DTCH)
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		

- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		7
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		6
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		6
- RB stop/continue		Not Present
- RB information to reconfigure		(TM BCCH for RRC)
- RB identity		5
- PDCP info		Not Present
- 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		
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		5
- RB stop/continue		Not Present
- RB information to reconfigure		(TM PCCH for RRC)
- RB identity		7
- PDCP info		Not Present
- 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		
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		PCH
- Logical channel identity		1
- RB stop/continue		Not Present
RB information to be affected	A1, A2, A3	(UM DCCH for RRC)
- RB identity		1
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		1
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		1
RB information to be affected	A1, A2, A3	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		2
- CHOICE RLC size list		All
- MAC logical channel priority		2

- Downlink RLC logical channel info
  - Number of downlink RLC logical channels
  - Downlink transport channel type
  - DL DCH Transport channel identity
  - Logical channel identity
		10
		DCH
		1
		2

RB information to be affected
  - RB identity
  - RB mapping info
  - Information for each multiplexing option
   - RLC logical channel mapping indicator
   - Number of uplink RLC logical channels
   - Uplink transport channel type
   - UL Transport channel identity
   - Logical channel identity
   - CHOICE RLC size list
   - MAC logical channel priority
  - Downlink RLC logical channel info
   - Number of downlink RLC logical channels
   - Downlink transport channel type
   - DL DCH Transport channel identity
   - Logical channel identity
	A1, A2, A3	(AM DCCH for NAS_DT High priority)
		3
		
		Not Present
		1
		DCH
		5
		3
		All
		3
		
		1
		DCH
		10
		3

RB information to be affected
  - RB identity
  - RB mapping info
  - Information for each multiplexing option
   - RLC logical channel mapping indicator
   - Number of uplink RLC logical channels
   - Uplink transport channel type
   - UL Transport channel identity
   - Logical channel identity
   - CHOICE RLC size list
   - MAC logical channel priority
  - Downlink RLC logical channel info
   - Number of downlink RLC logical channels
   - Downlink transport channel type
   - DL DCH Transport channel identity
   - Logical channel identity
	A1, A2, A3	(AM DCCH for NAS_DT Low priority)
		4
		
		Not Present
		1
		DCH
		5
		4
		All
		4
		
		1
		DCH
		10
		4

RB information to be affected
  - RB identity
  - RB mapping info
  - Information for each multiplexing option
   - RLC logical channel mapping indicator
   - Number of uplink RLC logical channels
   - Uplink transport channel type
   - UL Transport channel identity
   - Logical channel identity
   - CHOICE RLC size list
   - MAC logical channel priority
  - Downlink RLC logical channel info
   - Number of downlink RLC logical channels
   - Downlink transport channel type
   - DL DCH Transport channel identity
   - Logical channel identity
	A1, A2, A3	(TM DTCH)
		10
		
		Not Present
		1
		DCH
		1
		7
		All
		1
		
		1
		DCH
		6
		7

RB information to be affected
  - RB identity
  - RB mapping info
  - Information for each multiplexing option
   - RLC logical channel mapping indicator
   - Number of uplink RLC logical channels
   - Uplink transport channel type
   - UL Transport channel identity
   - Logical channel identity
   - CHOICE RLC size list
   - MAC logical channel priority
  - Downlink RLC logical channel info
   - Number of downlink RLC logical channels
   - Downlink transport channel type
   - DL DCH Transport channel identity
	A2	(DTCH TM)
		11
		
		Not Present
		1
		DCH
		2
		8
		All
		1
		
		1
		DCH
		7

- Logical channel identity		8
RB information to be affected	A2	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity		12
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- Logical channel identity		9
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		8
- Logical channel identity		9
UL Transport channel information for all transport channels	A1, A2, A3, A4	
- PRACH TFCS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared channel indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	
- PRACH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- CHOICE mode		TDD
- Individual UL CCTrCH information		Not Present
Deleted UL TrCH information	A1, A2, A3	Not Present
Deleted UL TrCH information	A4	
- Uplink transport channel type		DCH
- Transport channel identity		15
Deleted UL TrCH information	A5	
- Uplink transport channel type		DCH
- Transport channel identity		1
- Uplink transport channel type		DCH
- Transport channel identity		5
Added or Reconfigured UL TrCH information	A1, A2, A3, A4	
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter

- CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval		Set ALL Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
Added or Reconfigured UL TrCH information - Uplink transport channel type - UL Transport channel identity - TFS - CHOICE Transport channel type - Dynamic Transport format information - RLC Size	A4	 DCH 1 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks		(This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval		ALL Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - Individual DL CCTrCH information - DL TFCS Identity - TFCS ID - Shared Channel Indicator - CHOICE DL parameters - DL TFCS - CHOICE TFCI signalling - TFCI Field 1 Information - CHOICE TFCI representation - TFCS addition information - CHOICE CTFC size - CTFC information	A1, A3	 Not Present TDD 1 FALSE Independent Normal Addition Refer to TS34.108 clause 6 Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - Individual DL CCTrCH information - DL TFCS Identity - TFCS ID - Shared Channel Indicator - CHOICE DL parameters - DL TFCS - CHOICE TFCI signalling - TFCI Field 1 Information - CHOICE TFCI representation - TFCS addition information - CHOICE CTFC size	A2, A4	 Not Present TDD 1 FALSE Independent Normal Addition Refer to TS34.108 clause 6

- CTFC information		Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	A5, A6	
- SCCPCH TFCS		(This IE is repeated for TFC number.)
- 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.
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- Power offset information		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		Not Present
jDeleted DL TrCH information	A1, A2, A3, A6	Not Present
Deleted DL TrCH information	A4	
- Downlink transport channel type		DCH
- Transport channel identity		12
- Downlink transport channel type		DCH
- Transport channel identity		13
- Downlink transport channel type		DCH
- Transport channel identity		14
Deleted DL TrCH information	A5	
- Downlink transport channel type		DCH
- Transport channel identity		6
- Downlink transport channel type		DCH
- Transport channel identity		10
Added or Reconfigured DL TrCH information	A1	
- Downlink transport channel type		DCH
- Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH Identity		5
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A2, A3, A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Independent
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Frequency info		
- CHOICE mode		TDD
- UARFCN (Nt)		Reference to TS34.108 clause 6

Maximum allowed UL TX power		30dBm
CHOICE channel requirement	A1, A2, A3, A4	Uplink DPCH info
-Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Reference to TS34.108
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1 dB
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFNmod 8 + 8))MOD256
- Duration		infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 clause 6 Parameter Set.
- TFCI coding		Reference to TS34.108 clause 6 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6 Parameter Set
- Repetition Period		1
- Repetition Length		Empty
- Uplink DPCH timeslots and codes		
- First timeslot information		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble Allocation Mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each channelisation code that is assigned in the slot.
- Channelisation Code		(i/SF) where i denotes the code that is being assigned and SF is specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on number of resources specified in TS34.108 section 6 and whether they are being assigned in more than one timeslot.
CHOICE channel requirement	A5, A6	Not Present
CHOICE Mode		TDD
Downlink information common for all radio links	A1, A2, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
-CHOICE mode		TDD
-TPC Step Size		1
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Default DPCH Offset Value		Not Present
-Downlink information for each radio link	A1, A2, A3, A4	
- Downlink information for each radio links		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD

- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108
- TFCI coding		TRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter Set
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- Individual timeslot info		
- Timeslot number		The number of a downlink timeslot that has unassigned codes
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code assigned within the timeslot and SF is specified in TS34.108 clause 6 Parameter Set.
- Last channelisation code		(j/SF) where j is the highest numbered code assigned in the timeslot.
- Bitmap		Bitmap of the codes assigned in this timeslot.
- CHOICE more timeslots		The presence of this IE depends upon slot allocations used in the test.
- Secondary CCPCH info		Not Present
- Downlink information for each radio link	A5, A6	
- Choice mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps TDD
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		TRUE
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

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

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	CELL_DCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	10
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	1
- CHOICE RLC size list	All
- MAC logical channel priority	1
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	2
- CHOICE RLC size list	All
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- 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	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	3
- CHOICE RLC size list	All
- MAC logical channel priority	3
- Downlink RLC logical channel info	

- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- 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	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	4
- CHOICE RLC size list	All
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- Logical channel identity	4
Downlink counter synchronisation info	Not Present
UL Transport channel information for all transport channels	
- PRACH TFCS	Not Present
- CHOICE mode	TDD
- Individual UL CCTrCH information	
- TFCS ID	1
- Shared channel indicator	FALSE
- UL TFCS	
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCI representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Refer to TS34.108 clause 6
- CTFC information	Refer to TS34.108 clause 6 Parameter Set
- TFC subset	
- CHOICE Subset representation	Allowed transport format combination list
- Allowed Transport Format combination list	Refer to TS34.108 clause 6 Parameter Set
Deleted UL TrCH Information	
- Transport channel identity	1
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.).
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- TFS	
- CHOICE Transport channel type	Dedicated transport channels
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC Size	Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6 Parameter Set
- CRC size	Reference to TS34.108 clause 6 Parameter Set
CHOICE mode	TDD
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE mode	TDD
- Individual DL CCTrCH information	
- DL TFCS Identity	
- TFCS ID	1
- Shared Channel Indicator	FALSE

- CHOICE DL parameters	Independent
- DL TFCS	
- CHOICE TFCI signalling	Normal
- TFCI Field 1 Information	
- CHOICE TFCI representation	Addition
- TFCS addition information	
- CHOICE CTFC size	Refer to TS34.108 clause 6
- CTFC information	Refer to TS34.108 clause 6 Parameter Set
Deleted DL TrCH Information	
- Transport channel identity	6
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.).
- Downlink transport channel type	DCH
- DL Transport channel identity	10
- CHOICE DL parameters	Independent
- TFS	
- CHOICE Transport channel type	Dedicated transport channels
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC Size	Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6 Parameter Set
- CRC size	Reference to TS34.108 clause 6 Parameter Set
- DCH quality target	
- BLER Quality value	-6.3
- Transparent mode signalling info	Not Present
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UL TX power	30dBm
Uplink DPCH info	
- CHOICE mode	TDD
- Uplink DPCH power control info	
- UL Target SIR	Reference to TS34.108
- CHOICE UL OL PC info	Individually signalled
- CHOICE TDD option	1.28 Mcps TDD
- TPC step size	1
- Primary CCPCH Tx Power	Reference to TS34.108
- CHOICE mode	TDD
- Uplink Timing Advance Control	Not Present
- UL CCTrCH List	
- TFCS ID	1
- Time info	
- Activation time	(256+CFN-(CFN MOD 8 + 8) MOD 256
- Duration	Infinite
- Common timeslot info	
- 2nd interleaving mode	Reference to TS34.108 clause 6 Parameter Set .
- TFCI coding	Reference to TS34.108 clause 6 Parameter Set.
- Puncturing Limit	Reference to TS34.108 clause 6 Parameter Set.
- Repetition Period	Reference to TS34.108 clause 6 Parameter Set.
- Repetition Length	Reference to TS34.108 clause 6 Parameter Set.
- Uplink DPCH timeslots and codes	
- First timeslot information	
- CHOICE TDD option	1.28 Mcps
- Timeslot number	The number of an uplink timeslot that has unassigned codes.
- TFCI existence	TRUE
- Midamble shift and burst type	
- CHOICE TDD option	1.28 Mcps
- Midamble Allocation Mode	Default
- Midamble configuration	16
- CHOICE TDD option	1.28 Mcps

- Modulation	QPSK
- SS-TPC Symbols	1
- First timeslot code list	Repeated (1,2) for each channelisation code that is assigned in the timeslot.
- Channelisation Code	(i/SF) where i denotes an unassigned code and SF is specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots	The presence of this IE depends on number of resources specified in TS34.108 section 6 and whether they are assigned in more than one timeslot.
CHOICE Mode	TDD
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing indicator	Maintain
- CFN-targetSFN frame offset	Not Present
- Downlink DPCH power control information	
-CHOICE mode	TDD
-TPC Step Size	1
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
- TSTD indicator	TRUE
- Default DPCH Offset Value	0
Downlink information for each radio link list	
- Downlink information for each radio links	
- CHOICE mode	TDD
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
- TSTD indicator	TRUE
- Cell parameters ID	0
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCH List	
- TFCS ID	1
- Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration	Infinite
- Common timeslot info	
- 2nd Interleaving mode	Reference to TS34.108 clause 6 Parameter Set
-TFCI coding	Reference to TS34.108 clause 6 Parameter Set
- Puncturing limit	Reference to TS34.108 clause 6 Parameter Set
- Repetition period	1
- Repetition length	Empty
- Downlink DPCH timeslots and codes	
- Individual timeslot info	
- Timeslot number	The number of a downlink timeslot that has unassigned codes.
- TFCI existence	TRUE
- Midamble shift and burst type	
- CHOICE TDD option	1.28 Mcps
- Midamble allocation mode	Default
- Midamble configuration	16
- CHOICE TDD option	1.28 Mcps TDD
- Modulation	QPSK
- SS-TPC Symbols	1
- First timeslot channelisation codes	
- First channelisation code	(i/SF) where i is the lowest numbered unused code that is assigned in the timeslot and SF is specified in TS34.108 Parameter Set.
- Last channelisation code	(j/SF) where j is the highest numbered code that is assigned in the timeslot.
- Bitmap	Bitmap of codes assigned in the slot.
- CHOICE more timeslots	The presence of this IE depends upon whether the resources specified in the TS34.108 clause 6 Parameter Set require the use of more than one timeslot.
- Secondary CCPCH info	Not Present

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

Information Element		Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
Signalling Connection release indication		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to release - RB identity	A2	 10
RB information to release - RB identity	A2	 11
RB information to release - RB identity	A2	 12
RB information to release - RB identity	A3, A4, A5, A6	 20
RB information to release - RB identity	A4	 6
RB information to release - RB identity	A4	 7

RB information to be affected
    - RB identity
    - RB mapping info
    - Information for each multiplexing option
    - RLC logical channel mapping indicator
    - Number of uplink RLC logical channels
    - Uplink transport channel type
    - UL Transport channel identity
    - Logical channel identity
    - CHOICE RLC size list
    - MAC logical channel priority
    - Downlink RLC logical channel info
    - Number of downlink RLC logical channels
    - Downlink transport channel type
    - DL DCH Transport channel identity
    - Logical channel identity
	A2, A3, A4	(UM DCCH for RRC)
		1
		
		Not Present
		1
		DCH
		5
		1
		All
		1
		
		1
		DCH
		10
		1

RB information to be affected
    - RB identity
    - RB mapping info
    - Information for each multiplexing option
    - RLC logical channel mapping indicator
    - Number of uplink RLC logical channels
    - Uplink transport channel type
    - UL Transport channel identity
    - Logical channel identity
    - CHOICE RLC size list
    - MAC logical channel priority
    - Downlink RLC logical channel info
	A2, A3, A4	(AM DCCH for RRC)
		2
		
		Not Present
		1
		DCH
		5
		2
		All
		2

- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		2
RB information to be affected	A2, A3, A4	(AM DCCH for NAS_DT High priority)
- RB identity		3
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		3
- CHOICE RLC size list		All
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		3
RB information to be affected	A2, A3, A4	(AM DCCH for NAS_DT Low priority)
- RB identity		4
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		4
- CHOICE RLC size list		All
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		4
RB information to be affected	A5, A6	(UM DCCH for RRC)
- RB identity		1
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		1
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		1
RB information to be affected	A5, A6	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		2
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		2

RB information to be affected	A5, A6	(AM DCCH for NAS_DT High priority)
- RB identity		3
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		3
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		3
RB information to be affected	A5, A6	(AM DCCH for NAS_DT Low priority)
- RB identity		4
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- Logical channel identity		4
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority		5
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- DL Transport channel identity		1
- Logical channel identity		4
RB information to be affected	A5, A6	(TM BCCH for RRC)
- RB identity		6
- RB mapping info		
- Information for each multiplexing option		
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- Logical channel identity		5
RB information to be affected	A5, A6	(TM PCCH for RRC)
- RB identity		7
- RB mapping info		
- Information for each multiplexing option		
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		PCH
- Logical channel identity		1
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport channels	A2, A4	
- PRACH TFCS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared channel indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport	A3	

channels		
- PRACH TFCS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared channel indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	
- PRACH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- CHOICE mode		TDD
- Individual UL CCTrCH information		Not Present
Deleted UL TrCH Information	A2, A5	
- Uplink transport channel type		DCH
- Transport channel identity		1
Deleted UL TrCH Information	A2	
- Uplink transport channel type		DCH
- Transport channel identity		2
Deleted UL TrCH Information	A2	
- Uplink transport channel type		DCH
- Transport channel identity		3
Deleted UL TrCH Information	A3	
- Uplink transport channel type		DCH
- Transport channel identity		6
Added or Reconfigured UL TrCH information	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	A2, A3, A4	

- SCCPCH TFCS		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		
- DL TFCS Identity		
- TFCS ID		1
- Shared Channel Indicator		FALSE
- CHOICE DL parameters		Independent
- DL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 Information		
- CHOICE TFCI representation		Addition
- TFCS addition information		
- CHOICE CTFC size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	A5, A6	
- SCCPCH TFCS		(This IE is repeated for TFC number.)
- 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 clauses 6.
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- Power offset information		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		Not Present
Deleted DL TrCH Information	A2, A3, A5	
- Downlink transport channel type		DCH
- Transport channel identity		6
Deleted DL TrCH Information	A2	
- Downlink transport channel type		DCH
- Transport channel identity		7
Deleted DL TrCH Information	A2	
- Downlink transport channel type		DCH
- Transport channel identity		8
Added or Reconfigured DL TrCH information	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Independent
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present

Frequency info		TDD
- CHOICE mode		
- UARFCN (Nt)		Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UL TX power		30dBm
CHOICE channel requirement	A2, A2, A4	Uplink DPCH info
-Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Reference to TS34.108
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFNmod 8 + 8))MOD256
- Duration		Infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 clause 6.
- TFCI coding		Reference to TS34.108 clause 6.
- Repetition Period		1
- Repetition Length		Empty
- Uplink DPCH timeslots and codes		
- First timeslot information		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble Allocation Mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each channelisation code that is assigned in the slot.
- Channelisation Code		(i/SF) where i denotes the code that is being assigned and SF is specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on the number of resources specified in TS34.108 section 6 and whether they are assigned in more than one timeslot.
CHOICE Mode		TDD
Downlink information common for all radio links	A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
-CHOICE mode		TDD
-TPC Step Size		1
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A2, A3, A4	
- Downlink information for each radio links		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE

- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
- 2nd Interleaving mode		Reference to TS34.108 clause 6
-TFCI coding		Reference to TS34.108 clause 6
- Puncturing limit		Reference to TS34.108 clause 6
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- Individual timeslot info		
- Timeslot number		The number of a downlink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code assigned in the timeslot and SF is specified in TS34.108 clause 6 arameter Set.
- Last channelisation code		(j/SF) where j is the highest numbered code assigned in the timeslot.
- Bitmap		Bitmap of the codes assigned in the timeslot.
- CHOICE more timeslots		The presence of this IE depends upon the number of resources required by the TS34.108 clause 6 Parameter Set and whether they are assigned using more than one timeslot.
- Secondary CCPCH info		Not Present
Downlink information common for all radio links	A5, A6	
- Downlink information for each radio link		
- Choice mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps TDD
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

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.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
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 Parameter Set
RRC transaction identifier	Arbitrarily select a integer between 0 and 3
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
RRC state indicator	CELL_FACH
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access FDD capability update requirement	FALSE
- UE radio access 3.84Mcps TDD capability update requirement	FALSE
- UE radio access 1.28Mcps TDD 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	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of downlink 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200

- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	5
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- 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 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	15
- TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC Size	Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6 Parameter Set
- CHOICE mode	TDD
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6 Parameter Set
- CRC size	Reference to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE CTFC representation	Complete
- TFCS complete reconfigure information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.
- CTFC information	Refer to TS34.108 clause 6 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UL TX power	30dBm
CHOICE channel requirement	Not Present

Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
- Downlink information for each radio link	
- Choice mode	TDD
- Primary CPICH info	Set to the default value of cell 1.
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not present
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	Not Present
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6 Parameter Set
- Code number	SF-1(SF is reference to clause 6 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible position	Flexible
- Timing offset	0
- References to system information blocks	Not present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Identification of received message	Not Present
- Received message type	
- RRC transaction identifier	
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_DCH should this be CELL_FACH ??? because it indicates the state that is to be entered.
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport channels	A1, A2, A3, A4	
- PRACH TFCS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared channel indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	
- PRACH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- CHOICE mode		TDD
- Individual UL CCTrCH information		Not Present
Added or Reconfigured UL TrCH information	A1, A2, A3, A4	
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present

- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel List		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
Added or Reconfigured UL TrCH information	A4	
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	A1, A2, A3, A4	
- SCCPCH TFCS		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		
- DL TFCS Identity		
- TFCS ID		1
- Shared Channel Indicator		FALSE
- CHOICE DL parameters		Independent
- DL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 Information		
- CHOICE TFCI representation		Addition
- TFCS addition information		
- CHOICE CTFC size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all transport channel	A5, A6	
- SCCPCH TFCS		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		Not Present
Added or Reconfigured DL TrCH information	A1, A2	
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH Identity		5
- DCH quality target		
- BLER Quality value		-6.3

- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A3, A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Independent
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Independent
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter Set
- CRC size		Reference to TS34.108 clause 6 Parameter Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Frequency info		
- CHOICE mode		TDD
- UARFCN (Nt)		Reference to TS34.108 clause 6
Maximum allowed UL TX power		30dBm
CHOICE channel requirement	A1, A2, A3, A4	Uplink DPCH info
-Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Refrence to TS34.108
- CHOICE UL OL PC info		Individually signalled

- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		TDD
- Uplink Timing Advance Control		Not Present
- UL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFNmod 8 + 8))mod 256
- Duration		Infinite
- Common timeslot info		
- 2nd interleaving mode		Reference to TS34.108 clause 6 Parameter Set
- TFCI coding		Reference to TS34.108 clause 6 Parameter Set
- Repetition Period		1
- Repetition Length		Empty
- Uplink DPCH timeslots and codes		
- First timeslot information		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble Allocation Mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each code that is assigned within the timeslot.
- Channelisation Code		(i/SF) where i denotes the number of the assigned code and SF is specified in TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on number of resources specified in TS34.108 section 6 and whether they are assigned in more than one slot.
CHOICE Mode		TDD
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
-CHOICE mode		TDD
-TPC Step Size		1
- CHOICE mode		TDD
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Default DPCH Offset Value		0
Downlink information for each radio link list	A1, A2, A3, A4	
- Downlink information for each radio links		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		FALSE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256

- Duration		Infinite
- Common timeslot info		
- 2nd Interleaving mode		Reference to TS34.108 clause 6
-TFCI coding		Reference to TS34.108 clause 6
- Puncturing limit		Reference to TS34.108 clause 6
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- Individual timeslot info		
- Timeslot number		The number of a downlink timeslot that has unassigned codes.
- TFCI existence		TRUE
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code assigned within the slot and SF is specified in the TS34.108 clause 6 Parameter Set..
- Last channelisation code		(j/SF) where j is the highest numbered code assigned in the timeslot.
- Bitmap		Bitmap of codes assigned in the timeslot.
- CHOICE more timeslots		The presence of this IE depends upon the number of resources required by the TS34.108 clause 6 Parameter Set and whether thay are allocated in more than one slot.
- Secondary CCPCH info		Not Present
Downlink information for each radio link list	A5, A6	
- Downlink information for each radio link		
- Choice mode		TDD
- Primary CCPCH info		Set to the default value of cell 1.
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps TDD
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		TRUE
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

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

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
CHOICE mode	TDD
- TFCS Id	1
- Shared Channel Indicator	FALSE
DPCH TFCS in Uplink	
- Minimu allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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 FDD capability update requirement	FALSE
- UE radio access 3.84 Mcps TDD capability update requirement	FALSE
- UE radio access 1.28 Mcps TDD 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

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	
- UE positioning capability	
- Measurement capability	
UE system specific capability	
-Inter-RAT UE radio access capability	Choice and value will be checked. UE must include the classmark information for the supported RAT

Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

Contents of URA 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
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

Annex B (informative):
Core specification versions to which test cases relate

The table B.1 lists for each clause of the present document 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.

Table B.1

Clause number	Clause heading	Related core specifications	Current R99 version supported	Current Rel-4 version supported	Current change requests taken into account
6	Idle mode operations	25.304	3.7.0		
		23.122	3.7.0		
		31.102	3.6.0		
		25.133	3.6.0		
		25.123	3.6.0		
		TS 03.22	8.5.0		
		TS 05.08	8.10.0		
7.1	MAC	25.321	3.8.0		
7.2	RLC	25.322	3.7.0		
7.3	PDCP	25.323	3.5.0		
7.4	BMC	25.324	3.4.0		
8	Radio Resource Control (RRC)	25.331	3.7.0		
		04.18	9.0.0		
9	Elementary procedures of mobility management	24.008	3.8.0		
10	Circuit Switched Call Control (CC)	24.008	3.7.0		
11	Session Management Procedures	24.008	3.8.0		
12	Elementary procedure for Packet Switched Mobility Management	24.008	3.8.0		
13	General Tests	24.008	3.8.0		
14	Radio Bearer Services	34.108	3.5.0		
15	Supplementary Services	N/A			
16	Short message service (SMS)	23.040	3.5.0		
		23.041	3.4.0		
		24.011	3.6.0		
17	User Equipment features (MMI, VHE, MexE, SAT)				

Annex C (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
TP-10	TP-000218	034		Application of integrity mode protection to signalling message by default	F	3.1.0	3.2.0	T1-000297
TP-10	TP-000218	035		New teset cases for CS intersystem handover	B	3.1.0	3.2.0	T1-000300
TP-10	TP-000218	036		CR to 34.123-1, Annex B, Mapping of test cases to core specification versions	D	3.1.0	3.2.0	T1-000319
TP-10	TP-000218	037		Application of ciphering during conformance testing and changes to integrity mode protection related messages	C	3.1.0	3.2.0	T1-000286
TP-10	TP-000218	038		Idle Mode test cases in chapter 6	F	3.1.0	3.2.0	T1-000288
TP-10	TP-000218	039		Update to RLC test cases	F	3.1.0	3.2.0	T1-000301
TP-10	TP-000218	040		Technical Corrections to RRC test cases in clause 8	F	3.1.0	3.2.0	T1-000292
TP-10	TP-000218	041		Updates to clause 8 and Annex A due to RAN2 core specifications modifications	C	3.1.0	3.2.0	T1-000293
TP-10	TP-000218	042		Editorial modification for CC test cases (Clause 10)	D	3.1.0	3.2.0	T1-000289
TP-10	TP-000218	043		Update of radio bearer test cases	F	3.1.0	3.2.0	T1-000290
TP-10	TP-000218	044		Update of Session Management test cases	B	3.1.0	3.2.0	T1-000298
TP-10	TP-000218	045		Modification to the "Authentication rejected by the UE" test case	F	3.1.0	3.2.0	T1-000308
TP-10	TP-000218	046		Update to 16. SMS test specification	F	3.1.0	3.2.0	T1-000309
TP-10	TP-000218	047		Correction to MM tests	D	3.1.0	3.2.0	T1-000310
TP-11	TP-010021	048		Idle mode test cases	F	3.2.0	3.3.0	T1-010076
TP-11	TP-010021	049		Updates to clause 8 of TS 34.123-1 version 3.2.0	F	3.2.0	3.3.0	T1-010106
TP-11	TP-010021	050		Update to GMM test case.	F	3.2.0	3.3.0	T1-010086
TP-11	TP-010021	051		Update to 16. SMS test specification	D	3.2.0	3.3.0	T1-010090
TP-11	TP-010021	052		Annex B: Update of versions of core specifications	F	3.2.0	3.3.0	T1-010091
TP-12	TP-010121	053		Idle mode tests	F	3.3.0	3.4.0	T1-010167
TP-12	TP-010121	054		Clause 7.2: Update of RLC tests to 25.322 v3.5.0	F	3.3.0	3.4.0	T1-010170
TP-12	TP-010121	055		Corrections to Clause 7.2: RLC test case updates	F	3.3.0	3.4.0	T1-010171
TP-12	TP-010121	056		Corrections to clause 7.3 PDCP	F	3.3.0	3.4.0	T1-010173

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TP-12	TP-010121	057		Corrections to clause 7.4 BMC	F	3.3.0	3.4.0	T1-010174
TP-12	TP-010121	058		7.1 Update to MAC test cases	F	3.3.0	3.4.0	T1-010175
TP-12	TP-010121	059		Modifications to the functional testing of CPCH related UE test cases	C	3.3.0	3.4.0	T1-010176
TP-12	TP-010121	060		Transmission RLC discard	F	3.3.0	3.4.0	T1-010178
TP-12	TP-010121	061		Updates to RRC test case	F	3.3.0	3.4.0	T1-010179
TP-12	TP-010121	062		Deletion of intersystem handover tests GERAN to UTRAN	F	3.3.0	3.4.0	T1-010181
TP-12	TP-010121	063		Corrections to CC test cases	F	3.3.0	3.4.0	T1-010183
TP-12	TP-010121	064		Corrections to Emergency call test cases	F	3.3.0	3.4.0	T1-010184
TP-12	TP-010121	065		Corrections to test of autocalling restrictions	F	3.3.0	3.4.0	T1-010185
TP-12	TP-010121	066		Corrections to call re-establishment tests in CC	F	3.3.0	3.4.0	T1-010187
TP-12	TP-010121	067		MM test case update	F	3.3.0	3.4.0	T1-010189
TP-12	TP-010121	068		CR to 34.123-1	F	3.3.0	3.4.0	T1-010193
TP-12	TP-010121	069		SMS Update	F	3.3.0	3.4.0	T1-010194
TP-12	TP-010121	070		SMS test specification	F	3.3.0	3.4.0	T1-010196
TP-12	TP-010121	071		Update to GMM test cases	F	3.3.0	3.4.0	T1-010235
TP-12	TP-010121	072		GMM service request test cases	F	3.3.0	3.4.0	T1-010236
TP-12	TP-010121	073		GMM authentication reject test cases	F	3.3.0	3.4.0	T1-010237
TP-12	TP-010121	074		Modifications to Clause 12 (GMM)	F	3.3.0	3.4.0	T1-010202
TP-12	TP-010121	075		Correction in test case 11.1, because of problems in core-specs	F	3.3.0	3.4.0	T1-010203
TP-12	TP-010121	076		Procedure and Expected Sequence Corrections to 11.1.2.	F	3.3.0	3.4.0	T1-010204
TP-12	TP-010121	077		Adding section for multi-layer functional testing	D	3.3.0	3.4.0	T1-010207
TP-12	TP-010121	078		Update of interoperability radio bearer test cases	F	3.3.0	3.4.0	T1-010208
TP-12	TP-010121	079		CR to TS 34.123-1 Update of Table B/1	D	3.3.0	3.4.0	T1-010217
TP-13	TP-010186	080		Parameters update and Editorial corrections in clauses 7.2.3.1, 7.2.3.2.1, 7.2.3.23, 7.2.3.24	F	3.4.0	3.5.0	T1-010292
TP-13	TP-010186	081		Corrections to Clause 13 General Tests	F	3.4.0	3.5.0	T1-010293
TP-13	TP-010186	082		Modification in "Method of Test" for RBS test cases in Clause 14	F	3.4.0	3.5.0	T1-010294
TP-13	TP-010186	083		Editorial modification for References	F	3.4.0	3.5.0	T1-010295
TP-13	TP-010186	084		Clause 7.3, PDCP tests	F	3.4.0	3.5.0	T1-010378
TP-13	TP-010186	085		Idle mode: Merge of T1S-010180 and 188	F	3.4.0	3.5.0	T1-010297
TP-13	TP-010186	086		clause 7.4 BMC: editorial correction	F	3.4.0	3.5.0	T1-010379
TP-13	TP-010186	087		Clause 7.1, MAC test cases	F	3.4.0	3.5.0	T1-010299
TP-13	TP-010186	088		Corrections to RLC test case 7.2.2.2	F	3.4.0	3.5.0	T1-010300
TP-13	TP-010186	089		Corrections to RLC test case 7.2.2.3	F	3.4.0	3.5.0	T1-010301
TP-13	TP-010186	090		Corrections to RLC test case 7.2.2.8	F	3.4.0	3.5.0	T1-010302
TP-13	TP-010186	091		Corrections to RLC test case 7.2.2.10	F	3.4.0	3.5.0	T1-010303
TP-13	TP-010186	092		Corrections to RLC test case 7.2.2.9	F	3.4.0	3.5.0	T1-010304
TP-13	TP-010186	093		Corrections to RLC test case 7.2.2.12	F	3.4.0	3.5.0	T1-010305
TP-13	TP-010186	094		Corrections to RLC test case 7.2.2.29	F	3.4.0	3.5.0	T1-010306
TP-13	TP-010186	095		Corrections to RLC test case 7.2.2.30	F	3.4.0	3.5.0	T1-010307
TP-13	TP-010186	096		Corrections to RLC test case 7.2.2.33	F	3.4.0	3.5.0	T1-010308
TP-13	TP-010186	097		Corrections to RLC test case 7.2.2.34	F	3.4.0	3.5.0	T1-010309
TP-13	TP-010186	098		Updates to clause 8 and Annex A	F	3.4.0	3.5.0	T1-010310
TP-13	TP-010186	099		RRC tests (section 8)	F	3.4.0	3.5.0	T1-010311
TP-13	TP-010186	100		InterSystemHandover tests (section 8.3.7)	F	3.4.0	3.5.0	T1-010312
TP-13	TP-010186	101		Update on Mobility Management	F	3.4.0	3.5.0	T1-010313
TP-13	TP-010186	102		Addition of a SM test case for UE in GSM	F	3.4.0	3.5.0	T1-010314
TP-13	TP-010186	103		Clause 12 "Elementary procedure for Packet Switched Mobility Management"(GMM)	F	3.4.0	3.5.0	T1-010315
TP-13	TP-010186	104		Update of radio bearer test cases	F	3.4.0	3.5.0	T1-010316
TP-13	TP-010186	105		SMS test specification	F	3.4.0	3.5.0	T1-010317
TP-13	TP-010186	106		RACH Test Procedures for 1.28 Mcps TDD (Rel-4)	F	3.4.0	4.0.0	T1-010318
TP-13	TP-010186	107		Corrections to RLC test case 7.2.2.14	F	3.4.0	3.5.0	T1-010319
TP-13	TP-010186	108		Corrections to RLC test case 7.2.2.7 and 7.2.2.13	F	3.4.0	3.5.0	T1-010320
TP-13	TP-010186	109		RLC acknowledge mode test cases 7.2.3.14 and 7.2.3.34	F	3.4.0	3.5.0	T1-010321
TP-13	TP-010186	110		Merging of Rel4 and R99 protocol test specifications	F	3.4.0	4.0.0	T1-010272
TP-13	TP-010189	112		Update of Annex B	F	3.4.0	3.5.0	----
TP-14	TP-010261	113		Clause 7.3: PDCP testing: additional configuration information	F	4.0.0	4.1.0	T1-010406
TP-14	TP-010261	114		Clause 7.4: BMC testing: update for BMC testing	F	4.0.0	4.1.0	T1-010407
TP-14	TP-010261	115		Clause 7.2: Update of UM and AM RLC test cases	F	4.0.0	4.1.0	T1-010408
TP-14	TP-010261	116		Idle mode tests (34.123-1)	F	4.0.0	4.1.0	T1-010409
TP-14	TP-010261	117		Removal of TBD Power Levels in section 6	F	4.0.0	4.1.0	T1-010410
TP-14	TP-010261	118		Idle Mode Test Parameters for Multi-mode environment (2G/3G) TDD	F	4.0.0	4.1.0	T1-010411
TP-14	TP-010261	119		Traffic Volume Measurement test cases (34.123-1 section 8.4)	F	4.0.0	4.1.0	T1-010412
TP-14	TP-010261	120		New interRAT test cases	F	4.0.0	4.1.0	T1-010413

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TP-14	TP-010261	121		Corrections to Annex A	F	4.0.0	4.1.0	T1-010414
TP-14	TP-010261	122		Clause 12 Packet Switched Mobility Management	F	4.0.0	4.1.0	T1-010415
TP-14	TP-010261	123		Update to GMM test cases	F	4.0.0	4.1.0	T1-010416
TP-14	TP-010261	124		Update of interoperbility radio bearer test cases for FDD.	F	4.0.0	4.1.0	T1-010417
TP-14	TP-010261	125		Update to SMS test specification	F	4.0.0	4.1.0	T1-010418
TP-14	TP-010261	126		Corrections to RRC test cases	F	4.0.0	4.1.0	T1-010419
TP-14	TP-010261	127		RRC Connection Management Procedure Tests for the TDD options	F	4.0.0	4.1.0	T1-010420
TP-14	TP-010261	128		Annex A Default RRC Message Contents for 1.28Mcps TDD Mode	F	4.0.0	4.1.0	T1-010421
TP-14	TP-010261	129		Radio Bearer Tests for 1.28 Mcps TDD Mode	F	4.0.0	4.1.0	T1-010422

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Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

3GPP TSG–T1/SIG Meeting #21 *Tdoc T1S-020069*
Sophia Antipolis, France, 18-20 February 2002

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1** CR **160** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Correction of MAC conformance test 7.1.2.3.1	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	Conformance tests 7.1.2.3.1 is not in accordance with core specifications.
Summary of change: ⌘	Correction of Conformance Requirements, Test Purpose, Test method and Test Requirement. Modified text "CHANNEL REQUEST" to "RRC_CONNECTION_REQUEST".
Consequences if not approved: ⌘	Test is not aligned with core specifications and would fail a good UE.

Clauses affected: ⌘	7.1.2.3.1
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 & REL-4

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.2.3 Correct Selection of RACH parameters

7.1.2.3.1 Correct Selection of RACH parameters (FDD)

7.1.2.3.1.1 Definition ~~and applicability~~

~~All FDD UE.~~ The physical random access procedure described in this subclause is initiated upon request of a PHY-Data-REQ primitive from the MAC sublayer.

The UE selection of "PRACH system information" is described in TS 25.331 clause 8.5.17

7.1.2.3.1.2 Conformance requirement

~~The following parameters are randomly selected by the physical layer (possibly within constraints defined by ASC parameters):~~

~~— PRACH initial access slot;~~

~~— PRACH signature.~~

A. The physical random-access procedure shall be performed as follows:

1 Derive the available uplink access slots, in the next full access slot set, for the set of available RACH sub-channels within the given ASC with the help of TS 25.214, subclauses 6.1.1. and 6.1.2. Randomly select one access slot among the ones previously determined. If there is no access slot available in the selected set, randomly select one uplink access slot corresponding to the set of available RACH sub-channels within the given ASC from the next access slot set. The random function shall be such that each of the allowed selections is chosen with equal probability.

2 Randomly select a signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.

3 Set the Preamble Retransmission Counter to Preamble Retrans Max.

…

5 … Transmit a preamble using the selected uplink access slot, signature, and preamble transmission power.

6 If no positive or negative acquisition indicator ($AI \neq +1$ nor -1) corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot:

6.1 Select the next available access slot in the set of available RACH sub-channels within the given ASC.

6.2 Randomly select a new signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.

…

6.4 Decrease the Preamble Retransmission Counter by one.

6.5 If the Preamble Retransmission Counter > 0 then repeat from step 5. Otherwise pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.

7 If a negative acquisition indicator corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot, pass L1 status ("Nack on AICH received") to the higher layers (MAC) and exit the physical random access procedure.

8 Transmit the random access message three or four uplink access slots after the uplink access slot of the last transmitted preamble depending on the AICH transmission timing parameter. Transmission power of the control part of the random access message should be P_{p-m} [dB] higher than the power of the last transmitted preamble. Transmission power of the data part of the random access message is set according to subclause 5.1.1.2.

9 Pass L1 status "RACH message transmitted" to the higher layers and exit the physical random access procedure.

Reference(s)

~~TS 25.321 clause A.1.~~

TS 25.214 clause 6.1.

7.1.2.3.1.3 Test purpose

~~To verify that the UE selects the correct initial access slot and PRACH signature.~~

To verify that:

A1 the UE, initially:

- derives the available uplink access slots, in the next full access slot set, for the set of available RACH sub-channels within the given ASC with the help of TS 25.214, subclauses 6.1.1. and 6.1.2. and randomly select one access slot among the ones previously determined.

- randomly select a new signature from the set of available signatures within the given ASC.

A2 the UE, when not receiving any reply from UTRAN:

- selects the next available access slot in the set of available RACH sub-channels within the given ASC.

- randomly select a new signature from the set of available signatures within the given ASC.

- does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

A3 the UE, when detecting a negative acquisition indicator:

- does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

A4 the UE, when detecting a positive acquisition indicator:

- transmits the random access message three or four uplink access slots after the uplink access slot of the last transmitted preamble depending on the AICH transmission timing parameter.

- terminates the random access procedure.

7.1.2.3.1.4 Method of test

Initial conditions

The UE shall be attached to the network and in idle mode. ~~The SS will broadcast the Access Service Class parameters [on the BCH?].~~

Preamble Retrans Max parameter in SIB5 set to 5.

2 ASC settings (ASC#0 and ASC#1) are defined (with default parameters) in SIB5, except that the parameter assigned sub channel number is set as follows:

ASC#0 Assigned sub channel number = '0001'B

ASC#1 Assigned sub channel number = '0010'B

The available sub-channel number defined in SIB5 is set to '0000 0000 0011'B. Note: this value allows RACH transmission on sub-channels 0 (ASC#0) and 1 (ASC#1) only.

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

a) The SS pages the UE until it performs a RACH access.

b) The SS measures the access slot and preamble signiture used.

c) The SS does not acknowledge the RACH access, causing the UE to retry.

d) The SS again measures the access slot and preamble signiture used.

e) The SS repeats the procedure from step c) until the maximum number of retries N_{RA} have been attempted, and monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

f) The SS pages the UE until it performs a RACH access.

g) The SS measures the the access slot and preamble signiture used.

h) The SS responds with a negative acquisition indicator on the AICH.

i) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

j) The SS pages the UE until it performs a RACH access.

k) The SS measures the access slot used.

l) The SS acknowledges the RACH access normally.

m) The SS measures the first access slot used in the PRACH message part.

n) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

Expected sequence

Step	Direction UE	Direction SS	Message	Comments
1	←		PAGE	Preamble Retransmission Counter = 5
2		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
				Preamble Retransmission Counter = 4
3		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
				Preamble Retransmission Counter = 3
4		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
				Preamble Retransmission Counter = 2
5		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
				Preamble Retransmission Counter = 1
6		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
				Preamble Retransmission Counter = 0
7			Wait for T = [TBD]s	SS monitors for RACH access attempts
8	←		PAGE	
9		→	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
10	←		AICH = NEG ACQUISITION IND	
11			Wait for T = [TBD]s	SS monitors for RACH access attempts
12	←		PAGE	
13		→	RRC_CONNECTION_REQUEST	Access slot used n = 1 from {0,1,3,4,6,7,9,10,12,13}
				Signature used = 1 from {P_0 .. P_7}
14	←		AICH = POS ACQUISITION IND	
15		→	RRC_CONNECTION_REQUEST	Message part. Access slot used = n+3
16			Wait for T = [TBD]s	SS monitors for RACH access attempts

Specific Message Contents

PRACH power offset info, PRACH info, and PRACH partitioning in System Information Block type 5

Information Element	Value/Remark
PRACH info	
- CHOICE	FDD
- Available Sub Channel number	'0000 0000 0000 00011'B
PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Assigned Sub-channel Number	'0001'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
- Assigned Sub-channel Number	'0010'B
PRACH power offset	
- Preamble Retrans Max	5

Step	Direction UE	Direction SS	Message	Comments
1	←		PAGE	
2		→	CHANNEL REQUEST	Access slot and signature should be in accordance with ASC parameters

7.1.2.3.1.5 Test requirements

~~The RACH access should take place on a PRACH access slot, and using a PRACH signature allowed by the UE Access Service Class.~~

A1

At step 2

- the SS shall receive a PRACH preamble using an access slot from the set of access slots {0,1,3,4,6,7,9,10,12,13} and using a preamble signature from the set of preamble signatures {P_0 .. P_7}. See TS 25.213, clause 4.3.3.3 for a list of preamble codes.

A2

At steps 3, 4, 5, and 6

- the SS shall receive a PRACH preamble using an access slot from the set of access slots {0,1,3,4,6,7,9,10,12,13} and using a preamble signature from the set of preamble signatures {P_0 .. P_7}. See TS 25.213, clause 4.3.3.3 for a list of preamble codes.

At step 7

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

A3

At step 11

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

A4

At step 15

- the SS shall receive the random access message three access slots after the uplink access slot of the preamble received in step 13.

At step 11

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

Note: Due to the indeterminate timing parameter T_{p-p} (see TS 25.211, clause 7.3) it is not possible to determine the SFN and therefore the exact access slot set that should be used for PRACH preamble re-transmissions. It is only possible to determine a larger set based on allowed sub-channels.

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21th-22th February 2002

T1-020089

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020068

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 159** | ⌘ ev | **-** | ⌘ Current version: | **4.1.0** | ⌘ |

*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: ⌘	Correction of MAC conformance test 7.1.2.1.1	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	Conformance tests 7.1.2.1 is not in accordance with core specifications.
Summary of change: ⌘	Correction of Conformance Requirements, Test Purpose, Test method and Test Requirement. Modified text "CHANNEL REQUEST" to "RRC CONNECTION REQUEST".
Consequences if not approved: ⌘	Test is not aligned with core specifications and would fail a good UE.

Clauses affected: ⌘	7.1.2.1.1
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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.2 RACH/FACH procedures

7.1.2.1 Selection and control of Power Level

7.1.2.1.1 Selection and control of Power Level (FDD)

7.1.2.1.1.1 Definition ~~and applicability~~

~~All FDD UE.~~

Selection and control of power level for PRACH is controlled by the physical random access procedure which is initiated upon request of a PHY-Data-REQ primitive from the MAC sublayer.

The UE selection of "PRACH system information" is described in TS 25.331 clause 8.5.17

7.1.2.1.1.2 Conformance requirement

A. For FDD and prior to PRACH or PCPCH transmission the UE shall:

- read the IEs "Primary CPICH DL TX power", "UL interference" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and System Information Block type 7;

- measure the value for the CPICH_RSCP;

- calculate the power for the first preamble as:

  Preamble_Initial_Power = Primary CPICH DL TX power – CPICH_RSCP + UL interference + Constant Value

  Where,

    Primary CPICH DL TX power shall have the value of IE "Primary CPICH DL TX power",

    UL interference shall have the value of IE "UL interference"; and

    Constant Value shall have the value of IE "Constant Value".

- as long as the physical layer is configured for PRACH or PCPCH transmission:

  - continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and

  - resubmit to the physical layer the new calculated Preamble_Initial_Power.

B. The physical random-access procedure shall be performed as follows:

…..

3. Set the Preamble Retransmission Counter to Preamble Retrans Max.

4. Set the parameter Commanded Preamble Power to Preamble_Initial_Power.

5 In the case that the Commanded Preamble Power exceeds the maximum allowed value, set the preamble transmission power to the maximum allowed power. In the case that the Commanded Preamble Power is below the minimum level required in 3GPP TS 25.101, set the preamble transmission power to a value, which shall be at or above the Commanded Preamble Power and at or below the required minimum power specified in 3GPP TS 25.101. Otherwise set the preamble transmission power to the Commanded Preamble Power. Transmit a preamble using the selected uplink access slot, signature, and preamble transmission power.

6   If no positive or negative acquisition indicator (AI ≠ +1 nor –1) corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot:

6.1 Select the next available access slot in the set of available RACH sub-channels within the given ASC.

6.2 Randomly select a new signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.

6.3 Increase the Commanded Preamble Power by $\Delta P_0 =$ Power Ramp Step [dB]. If the Commanded Preamble Power exceeds the maximum allowed power by 6dB, the UE may pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.

6.4 Decrease the Preamble Retransmission Counter by one.

6.5 If the Preamble Retransmission Counter > 0 then repeat from step 5. Otherwise pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.

7   If a negative acquisition indicator corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot, pass L1 status ("Nack on AICH received") to the higher layers (MAC) and exit the physical random access procedure.

Reference(s)

TS 25.331 clause 8.5.7.

TS 25.214 clause 6.1.

1. The UE sets the preamble transmit power to the value P_{RACH} given in clause 5.1.1 of 25.214.

2. If the UE does not detect the positive or negative acquisition indicator corresponding to the selected signature in the downlink access slot corresponding to the selected uplink access slot, the UE increases the preamble transmission power with the specified offset ΔP_0.

Reference(s)

TS 25.214 clause 6.

TS 25.321 clause 11.2.

7.1.2.1.1.3   Test purpose

To verify that the UE selects the correct preamble transmit power according to the value of I_{BTS} transmitted in layer 3 messages on the BCH, and that:

    if the RACH access is not responded to, the power is stepped according to the power step ΔP_0.

    if the RACH access is negatively acknowledged, the power is stepped according to the power step ΔP_1. To verify that:

A.   the UE selects the correct initial preamble transmit power at start of a power ramp cycle, taking account of the "Primary CPICH DL TX power", "UL interference" and "Constant value" parameter values as received in SIB5 as well as the measured CPICH_RSCP;

B1   the UE, when not receiving any reply from UTRAN:

-    performs a power ramp cycle taking into account the Power Ramp Step and Preamble Retrans Max paremeter values as received in SIB 5;

-    does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

B2   the UE, when detecting a negative acquisition indicator:

- does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

7.1.2.1.1.4   Method of test

Initial conditions

The UE is attached to the network and in idle mode.

Preamble Retrans Max parameter in SIB5 set to 5.

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

a) The SS pages the UE until it performs a RACH access.

b) The SS measures the power level of the RACH access.

c) The SS does not acknowledge the RACH access, causing the UE to retry.

d) The SS again measures the power level of the RACH access.

e) The SS repeats the procedure from step c) until the maximum number of retries N_{RA} have been attempted, and monitors the RACH channel for [TBD] seconds ~~until T_{xx} + Xs~~ to ensure that no further RACH accesses occur.

f) The SS pages the UE until it performs a RACH access.

g) The SS measures the power level of the RACH access.

h~~g~~) The SS responds with a negative acquisition indicator on the AICH.

i) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

~~h) The SS measures the power level of the next RACH access.~~

~~i) The SS repeats steps g) and h) until the maximum number of retries N_{RA} have been attempted.~~

Expected sequence

Step	Direction UE	Direction SS	Message	Comments
1	←		PAGE	Preamble Retransmission Counter = 5
2	→		~~CHANNEL REQUEST~~RRC_CONNECTION_REQUEST	Power should be set to Preamble_Initial_Power~~L$_{Perch}$ + I$_{BTS}$ + C~~ Preamble Retransmission Counter = 4
~~3~~			~~Wait for T = ??~~	
~~3~~4	→		RRC_CONNECTION_REQUEST~~CHANNEL REQUEST~~	Power should be set to Preamble_Initial_Power + ΔP_0~~L$_{Perch}$ + I$_{BTS}$ + C + ΔP_0~~ Preamble Retransmission Counter = 3
~~4~~5	→		RRC_CONNECTION_REQUEST~~CHANNEL REQUEST~~	Power should be set to Preamble_Initial_Power + $2\Delta P_0$~~L$_{Perch}$ + I$_{BTS}$ + C + 2ΔP_0~~ Preamble Retransmission Counter = 2
~~5~~6	→		RRC_CONNECTION_REQUEST~~...~~	Power should be set to Preamble_Initial_Power + $3\Delta P_0$~~Repeat (step 5)~~ Preamble Retransmission Counter = 1
~~7~~6	→		RRC_CONNECTION_REQUEST~~CHANNEL REQUEST~~	Power should be set to Preamble_Initial_Power + $4\Delta P_0$~~L$_{Perch}$ + I$_{BTS}$ + C + nΔP_0~~ Preamble Retransmission Counter = 0
~~7~~8			Wait for T = [TBD]s~~??~~	SS monitors for RACH access attempts
~~8~~9	←		PAGE	
~~9~~10	→		RRC_CONNECTION_REQUEST~~CHANNEL REQUEST~~	Power should be set to Preamble_Initial_Power ~~L$_{Perch}$ + I$_{BTS}$ + C~~
~~10~~11		←	AICH = NEG ACQUISITION IND	~~Power should be set to L$_{Perch}$ + I$_{BTS}$ + C + ΔP_1~~
11			Wait for T = [TBD]s	SS monitors for RACH access attempts
~~12~~	→		~~CHANNEL REQUEST~~	~~Power should be set to L$_{Perch}$ + I$_{BTS}$ + C~~
~~13~~		←	~~AICH = NEG ACQUISITION IND~~	~~Power should be set to L$_{Perch}$ + I$_{BTS}$ + C + 2ΔP_1~~
~~14~~			~~...~~	~~Repeat (step 13)~~
~~15~~		←	~~AICH = NEG ACQUISITION IND~~	~~Power should be set to L$_{Perch}$ + I$_{BTS}$ + C + nΔP_1~~

Specific Message Contents

PRACH power offset info in System Information Block type 5

Information Element	Value/Remark
PRACH power offset	
- Power Ramp Step	[TBD: 1..8] dB
- Preamble Retrans Max	5

7.1.2.1.1.5 Test requirements

A. At step 2 and 9 ~~Initially,~~ the measured power level shall be~~should be~~:

- P_{RACH} = Primary CPICH DL TX power – CPICH_RSCP + UL interference + Constant Value ± [TBD] dB

  Where "Primary CPICH DL TX power", "UL interference" and "Constant Value" are set by the SS via SIB5, and CPICH_RSCP is the UE measured received power on one code measured on the Primary CPICH which is reported back to the SS in measurement reports. ~~P$_{RACH}$ = L$_{Perch}$ + I$_{BTS}$ + Constant value.~~

~~Where I$_{BTS}$ and the Constant value are set by the SS, and L$_{Perch}$ is the measured path loss on the PCCPCH, and reported back to the SS in measurement reports.~~

B1

- After step 6 the UE does not perform any RACH access attempts; and

- At step 2, 3, 4, 5 and 6 the measured power level shall be

  P_{RACH} = Preamble_Initial_Power + k* ΔP_0

  Where

Preamble_Initial_Power is the SS measured P_{RACH} in step 1;

ΔP_0 is the Power Ramp Step value set in SIB5; and

k=1 for step 2, k=2 for step 3, k=3 for step 4, k=4 for step 5 and k=5 for measurement in step 6

B2 After step 10 the UE does not perform any RACH access attempts

Subsequently the power should increase by ΔP_0 steps each retransmission until N_{RA} number of attempts have been made.

Then, no further RACH accesses should be received for then next T seconds.

At the start of the next phase of the test, the measured power level should be $P_{RACH} = L_{Perch} + I_{BTS} +$ **Constant value**. Subsequently the power should increase in ΔP_1 steps until N_{RA} number of attempts have been made.

CR-Form-v6.1

CHANGE REQUEST

⌘	**34.123-1**	**CR**	158	⌘	rev	⌘	Current version:	**4.1.0**	⌘
	Spec Title:								⌘

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:	⌘	RRC Radio Bearer Control Procedure Tests for TDD both options.
Source:	⌘	Siemens
Work item code: ⌘	LCRTDD	*Date:* ⌘ 1.02.02

Category:	⌘ **F**	*Release:* ⌘	REL-4

Use one of the following categories:
F (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:	⌘	Introduces RRC Radio Bearer Control Procedure test parameters for the TDD options.

Summary of change: ⌘		Most of the tests described in TS34.123 section 8.2 are applicable, unchanged, to both FDD and TDD, however, in a small number of cases TDD specific information is added. Where the contents of test messages are listed, it is necessary to introduce TDD versions of these messages.

TDD specific parameters are introduced to those tests where TDD specific parameters are required.

- Frecuency info is specified for TDD in a lot of cases.
- PRACH TFCS is changed to Present to have an invalid configuration if needed in RADIO BEARER SETUP for TDD
- Uplink DPCH timeslots and codes included if used DPCH info for FDD mode.
- Downlink information for each radio link is splitted in two tables, one for FDD and one for TDD
- dBm values and channels for TDD cell are included
- Some clarifications in the sequences are done to distinguish between FDD and TDD.

Consequences if not approved:	⌘	Test procedures will not be defined for the TDD 1.28 Mcps and 3.84 Mcps options.

Clauses affected:	⌘	8.2		

Other specs affected:	⌘	☐ Other core specifications **X** Test specifications ☐ O&M Specifications	⌘	TS 34.123-2

Other comments:	⌘	These Test cases are applicable to Release 99 and Release 4 CR T1S-010373r1 has been taken in account to be compatible with the approval of the mentioned CR. There is no overlapping between both documents. This document provides the complementary information needed to be applied the test cases for TDD.

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

8.2.1.1.1 Definition

8.2.1.1.2 Conformance requirement

The UE shall correctly set up a new radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

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.

8.2.1.1.4 Method of test

Initial Condition

System Simulator: 1 cell
UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in 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 . This message requests the establishment of radio access bearer. After the UE receives this message, it configures them and establishes a radio access bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC.

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"

Specific Message Contents

None.

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message.

8.2.1.2   Void

8.2.1.3   Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.1.3.1   Definition

8.2.1.3.2   Conformance requirement

The UE shall keep its current 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 unsupported" 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_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message in which 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 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 indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

RADIO BEARER SETUP (FDD)

Information Element	Value/remark
Frequency info	
CHOICE mode	FDD
- UARFCN uplink (Nu)	0
- UARFCN downlink (Nd)	950

RADIO BEARER SETUP (TDD)

Information Element	Value/remark
Frequency info	
CHOICE mode	TDD
- UARFCN (Nt)	0

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported

8.2.1.3.5 Test requirement

After step 1 the UE transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration 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

8.2.1.4.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer before T312 expires 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 on the DCCH using AM RLC, if the UE fails to reconfigure the radio bearer according to the RADIO BEARER RECONFIGURATION message before timer T312 expires.

8.2.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE and SS keep its old dedicated channel configuration. 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 keeps its old L1 configuration after transmitting this message.
2				The UE does not configure the new radio access bearer and reverts to the old configuration.
3		→	RADIO BEARER SETUP FAILURE	UE shall transmit this message using the old configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	Physical channel failure

8.2.1.4.5   Test requirement

After step 2 the UE shall 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 a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure. After the UE complete cell update procedure, the UE transmits 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.

8.2.1.5.3   Test purpose

To confirm that UE transmits RADIO BEARER SETUP FAILURE message after it completes a cell update procedure due to a physical channel failure in the radio bearer establishment procedure.

8.2.1.5.4   Method of test

Initial Condition

System Simulator: 1 cell.
UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE. After transmitting the RADIO BEARER SETUP message, the SS shall not configure its dedicated physical channel in accordance with the settings in the message and release the old configuration after the RLC acknowledgement. The UE recognizes that it cannot synchronise on the new physical channel and wants to revert to the old configuration, but the UE cannot revert to the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value of IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2				The SS does not configure new radio access bearer and shall release the configuration.
3	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	This message includes IE "Physical channel information elements".
5				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RRC CONNECTION SETUP message used to move to initial condition
Downlink information for each radio links	Same as RRC CONNECTION SETUP message used to move to initial condition

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO_BEARER_SETUP message used to move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to initial condition

RADIO BEARER SETUP FAILURE (Step 7)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER SETUP FAILURE"
Failure cause	"physical channel failure"

8.2.1.5.5 Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".
After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
After step 6 the UE shall transmit RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.6.3   Test purpose

To confirm that if the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.1.6.4   Method of test

Initial Condition

System Simulator: 1 cell.
UE: CS-DCCH+DTCH_DCH (state 6-9) or PS_DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep its current configuration as if it had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS acknowledges the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Activation Time"
2		←	RADIO BEARER SETUP	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 according to the RADIO BEARER SETUP message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION message in step 1, use the message sub-type indicated as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
Uplink DPCH Info - Scrambling code number	1

RADIO BEARER SETUP (Step 2)

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
Uplink DPCH Info - Scrambling code number	2

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure case	Incompatible simultaneous reconfiguration

8.2.1.6.5 Test requirement

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".
After step 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.1.7 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.1.7.1 Definition

8.2.1.7.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER SETUP message, which does not includes any IEs except IE "Message Type". Then it transmits a RADIO BEARER SETUP FAILURE message which is set to "protocol error" in IE "failure cause" and is set to "ASN.1 violation or encoding error" in IE "Protocol error cause".
The UE shall keep existing configuration upon reception of a RADIO BEARER SETUP message which includes some IEs set to give an invalid configuration, and then the UE shall transmit a RADIO BEARER SETUP FAILURE message including IE "failure cause" set to "invalid configuration".

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 an invalid RADIO BEARER SETUP message which does not include any IEs except IE "Message Type".
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 including some IEs set to give an invalid configuration.

8.2.1.7.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH_DCH (state 6-5) or PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits an invalid RADIO BEARER SETUP message to the UE which does not includes any IEs except IE "Message Type". 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 " ASN.1 violation or encoding error " in IE "Protocol error cause". The UE keeps current configuration after SS transmits a RADIO BEARER SETUP message including some IEs set to give an invalid configuration. Then UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	See specific message content.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change its configuration.
3		←	RADIO BEARER SETUP	This message includes IE set to invalid value.
4	→		RADIO BEARER SETUP FAILURE	The UE does not change its configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
All IEs	Not Present

RADIO BEARER SETUP FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error
Other information element	Not checked

RADIO BEARER SETUP (Step 3)

The contents of RADIO BEARER SETUP message in this test case is identical as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

RADIO BEARER SETUP (Step 3) (FDD)

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024

RADIO BEARER SETUP (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER SETUP FAILURE (Step 5)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration

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 " ASN.1 violation or enoding error " in IE "Protocol error cause".
After step 3 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure 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 responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

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.

8.2.1.8.4 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 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 the UE receives this message, it transits from CELL_DCH to CELL_FACH state. 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	The UE selects PRACH and S-CCPCH indicated in SIB5 or SIB6 after entering CELL FACH state.

Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A.

8.2.1.8.5   Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message.
              8.2.1.9Radio Bearer Establishment for transition from CELL_DCH to
              CELL_FACH: Success (Cell re-selection)

8.2.1.9.1   Definition

8.2.1.9.2   Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer establishment procedure and correctly establish the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.9.3   Test purpose

To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message after it completes a cell update procedure.

8.2.1.9.4   Method of test

Initial Condition

System Simulator: 1 cell- Cell 1 is active.
UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message which includes IE"Primary CPICH info" and no dedicated physical channel information, to request the UE to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, the UE shall initiate the cell update procedure. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2			Void	
3		←	RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH
4	→		CELL UPDATE	The value "cell reselection" set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	
6			Void	
7	→		RADIO BEARER SETUP COMPLETE	

Specific Message Contents

RADIO BEARER SETUP (Step 3) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH info - Primary scrambling code	 150

RADIO BEARER SETUP (Step 3) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info -Cell parameters ID	 4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A.

8.2.1.9.5   Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".
After step 6 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

8.2.1.10 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success

8.2.1.10.1 Definition

8.2.1.10.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.10.3 Test purpose

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

8.2.1.10.4 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 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 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.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2		→	RADIO BEARER SETUP COMPLETE	

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.

8.2.1.10.5　　Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC. 8.2.1.11　　Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.1.11.1　　Definition

8.2.1.11.2　　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 unsupported" 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 in case of it receiving a RADIO BEARER SETUP message, which includes parameters of an unsupported configuration.

8.2.1.11.4　　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 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 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 indicated as " Packet to CELL_DCH from CELL_FACH in PS " as found in Annex A with the following exceptions:

RADIO BEARER SETUP (FDD)

Information Element	Value/remark

Frequency info
    - UARFCN uplink (Nu)
    - UARFCN downlink (Nd)
	
	0
	950

RADIO BEARER SETUP (TDD)

Information Element	Value/remark

Frequency info
   - CHOICE mode
      - UARFCN (Nt)
	
	TDD
	0

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type Failure cause	 Configuration unsupported

8.2.1.11.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

8.2.1.12 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.12.1 Definition

8.2.1.12.2 Conformance requirement

The UE shall attempt to revert to the old configuration when the UE fails to configure the new radio bearer before T312 expires and detects the same serving cell only. 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.

8.2.1.12.3 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 after it detects physical channel failure, followed by the T312 expiry.

8.2.1.12.4 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 CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and keeps its old physical channel configuration. After T312 expiry, the UE shall perform cell reselection procedure and detect the same serving cell only. Then the UE shall 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 keep its old configuration.
2		→	RADIO BEARER SETUP FAILURE	The UE does not configure a new radio bearer and reverts to the old 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_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure

8.2.1.12.5   Test requirement

After step 1 the UE shall 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   Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.13.1   Definition

8.2.1.13.2   Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer establishment procedure. After the UE completes cell update procedure, the UE transmits 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.

8.2.1.13.3   Test purpose

To confirm that the UE transmit a RADIO BEARER SETUP FAILURE message after it completes a cell update for the physical channel failure in the radio bearer establishment procedure.

8.2.1.13.4   Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.
UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.1.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-75	-75	-60
P-CCPICH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.1.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies reverse of the transmission power settings for cell 1 and cell 2.
The UE is in CELL_FACH state in cell 1. The SS transmits a RADIO BEARER SETUP message to the UE. After transmitting the RADIO BEARER SETUP message, the SS shall not configure its DL dedicated physical channel in accordance with the setting in the message and release its current configuration. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.1.13. The UE recognize that it cannot synchronize with the SS on the new radio bearer. The UE performs cell re-selection and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" which is set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	RADIO BEARER SETUP	
2				The SS does not configure the new radio bearer in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.13.
3			Void	
4				The UE select the cell 2.
5	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"

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 "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM" message as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER SETUP FAILURE (Step 8)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"

8.2.1.13.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".
After step 6 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.
After step 7 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.1.14 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.14.1 Definition

8.2.1.14.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.14.3 Test purpose

To confirm that if the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.1.14.4 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 CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep its current configuration as if it had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS acknowledges the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Activation Time "
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 because of the RADIO BEARER SETUP message, and transmit this message on its uplink DCCH using the same RLC-AM mode radio bearer before step 1.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH Info - Scrambling code number	1

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Current CFN-[current CFN mod 8 + 8] Assigned in step 1

RADIO BEARER SETUP (for Step 2) (FDD)

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	Not present
Uplink DPCH Info - Scrambling code number	2

RADIO BEARER SETUP (for Step 2) (TDD)

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	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration

8.2.1.14.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".
After step 3 the UE shall configure the new configuration on the activation time and transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.1.15 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.1.15.1 Definition

8.2.1.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER SETUP message, which does not includes any IEs except IE "Message Type". It shall transmit a RADIO BEARER SETUP FAILURE message which set value "protocol error" in IE "failure cause" and also value "ASN.1 violation or encoding error" in IE " Protocol error cause". The UE shall keep the old configuration upon reception of a RADIO BEARER SETUP message, which includes some IEs set to give an invalid configuration, and then the UE shall transmit a RADIO BEARER SETUP FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER SETUP messagewhich does not include any IEs except IE "Message Type".
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 including some IEs set to give an invalid configuration.

8.2.1.15.4 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 CELL_FACH state. The SS transmits an invalid RADIO BEARER SETUP message to the UE which does not include all IEs except IE "Message Type". 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 " ASN.1 violation or encoding error " in IE "Protocol error cause". The UE keeps current configuration after SS transmits RADIO BEARER SETUP message including some IEs set to give an invalid configuration. Then UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	See specific message content.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.
3		←	RADIO BEARER SETUP	This message includes IE set to give an invalid conifguration.
4	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
All IEs	Not Present

RADIO BEARER SETUP FAILURE (Step 2)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error

RADIO BEARER SETUP (Step 3)

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 with the following exceptions:

RADIO BEARER SETUP (Step 3) (FDD)

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024

RADIO BEARER SETUP (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER SETUP FAILURE (Step 4)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	Invalid configuration

8.2.1.15.5 Test requirement

After step 1 the UE shall 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 " ASN.1 violation or encoding error " in IE "Protocol error cause".
After step 3 the UE shall transmit RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value of IE "failure cause" to "invalid configuration".

8.2.1.16 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Success

8.2.1.16.1 Definition

8.2.1.16.2 Conformance requirement

The UE shall correctly set up a radio access bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.16.3 Test purpose

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

8.2.1.16.4 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 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 the UE receives this message, it configures them and establishes a new radio access bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2		→	RADIO BEARER SETUP COMPLETE	The UE select PRACH and S-CCPCH using SIB5 or SIB6.

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.

8.2.1.16.5   Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message.

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 completes the configuration of the radio bearers 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 a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.17.3   Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE completes the configuration of the radio bearer according to a previous RADIO BEARER SETUP message, it ignores 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_DCH (state 6-5) or PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE before the UE completes the configuration of 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 a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	The "Secondary scrambling code is set to "1" for FDD mode.
2		←	RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. For FDD tThe IE "Secondary scrambling code" is set to "2" and for TDD mode a different code combination to that used in step 1 1 is used..
3	→		RADIO BEARER SETUP COMPLETE	The UE ignores the RADIO BEARER SETUP message in step 2 and completes configuration according to the RADIO BEARER SETUP message in step 1.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info	
- Secondary scrambling code	1

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned in step 1

RADIO BEARER SETUP (Step 2) (FDD)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info	
- Secondary scrambling code	2

8.2.1.17.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

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 completes the configuration of the radio bearers 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 a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.18.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE completes the configuration of the radio bearer according to a previous RADIO BEARER SETUP message, it ignores 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_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, requesting the UE to setup radio bearers using DPCH physical channels. SS transmits another RADIO BEARER SETUP message before the activation time specified in the first message has lapsed. The UE ignores the new RADIO BEARER SETUP message and configures the radio bearers according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	The "Secondary scrambling code is set to "1" for FDD mode.
2		←	RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. For FDD mode t~~T~~he IE "Secondary scrambling code" is set to "2" and for TDD mode a different code combination to that used in step 1 ~~1~~ is used.
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) (FDD)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH 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
- Uplink DPCH Info	
- Secondary scrambling code	1

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned in step 1

RADIO BEARER SETUP (for Step 2) (FDD)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info	
- Secondary scrambling code	2

RADIO BEARER SETUP (Step 2) (TDD)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

8.2.1.18.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC specified in step 1.
After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.

8.2.1.19 Radio Bearer Establishment from CELL_DCH to CELL_PCH: Success

8.2.1.19.1 Definition

8.2.1.19.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_DCH state to CELL_PCH state according to the received RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.19.3 Test purpose

To conform that the UE transmits a RADIO BEARER SETUP COMPLETE message and enters CELL_PCH state after it received a RADIO BEARER SETUP message for the transition from CELL_DCH to CELL_PCH from SS.

8.2.1.19.4 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 CELL_DCH state. The SS transmits a RADIO BEARER SETUP message. The UE transmits RADIO BEARER SETUP COMPLETE message using AM RLC and enters CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is in CELL_PCH state.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

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
RRC State Indicator	CELL PCH

Downlink information for each radio link
  - Primary CPICH info
    - Primary scrambling code
	
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RADIO BEARER SETUP (Step 1) (TDD)

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

RRC State Indicator
Downlink information for each radio links
   - Primary CCPCH info
   -Cell parameters ID
	CELL_PCH
	
	4

8.2.1.19.5   Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on uplink DCCH using AM RLC.
After step 2, the UE shall enter CELL_PCH state.

8.2.1.20   Radio Bearer Establishment from CELL_DCH to URA_PCH: Success

8.2.1.20.1   Definition

8.2.1.20.2   Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_DCH state to URA_PCH state according to the received RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.20.3   Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP COMPLETE message and enters URA_PCH state after it received a RADIO BEARER SETUP message for the transition from CELL_DCH to URA_PCH from SS.

8.2.1.20.4   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 CELL_DCH state. The SS transmits a RADIO BEARER SETUP message. The UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC and enters URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is in URA_PCH state.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

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
RRC State Indicator	URA PCH

Downlink information for each radio link
  - Primary CPICH info
    - Primary scrambling code
	
	100

RADIO BEARER SETUP (Step 1) (TDD)

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
RRC State Indicator	URA_PCH

Downlink information for each radio links
    - Primary CCPCH info
     -Cell parameters ID
	
	4

8.2.1.20.5   Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on uplink DCCH using AM RLC.
After step 2, the UE shall enter URA_PCH state.

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 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 is active, Cell 6 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.2.1

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.2.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.1 and broadcast BCCH on the primary CCPCH in cell 6. 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 on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.1.
2			BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	←		RADIO BEARER RECONFIGURATION	Hard handover to cell 6,
4				The UE shall stop all uplink transmissions to cell 1 and shall commence the reconfiguration of the affected physical channel parameters to that of cell 6.
5	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (FDD)

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
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Initialise

RADIO BEARER RECONFIGURATION (TDD)

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
Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

8.2.2.1.5   Test requirement

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.After step 5 the UE shall change its physical channel configuration and communicate with the SS on the DCCH and DTCH using the dedicated physical channel in cell 6.

8.2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported 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 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: 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 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 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 (FDD)

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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

Information Element	Value/remark
Frequency info - UARFCN (Nt)	0

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	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 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 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_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 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 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 a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.4.3   Test purpose

To confirm that the UE transmits RADIO BEARER SETUP FAILURE message after it completes a cell update 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.

UE: PS-DCCH+DTCH_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 a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters. After transmitting the RADIO BEARER RECONFIGURATION message, the SS shall not reconfigure L1 in accordance to the settings in the message. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGURATION message and shall not use the old configuration.
3	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
5				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RECONFIGURATION message (Step 1)

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.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- 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
- DL channelisation code	
- Secondary scrambling code	2
- 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
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 5) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to initial condition

RADIO BEARER RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.2.4.5 Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.2.5.4 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. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGURATION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	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 because of receiving the RADIO BEARER RECONFIGURATION message..
4	→		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

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.

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Non speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes - First timeslot code list	 Assigned by SS

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 1 The SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters configured as a result of the RADIO BEARER SETUP message.

8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.2.6.1 Definition

8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" 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". The UE shall keep existing configuration before reception of a RADIO BEARER RECONFIGURATION message when the RADIO BEARER RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 an invalid RADIO BEARER RECONFIGURATION message containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to invalid value.

8.2.2.6.4 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 an invalid RADIO BEARER RECONFIGURATION message to the UE which includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" 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". The UE keeps initial configuration and SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to invalid value. The UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	See message content.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
3		←	RADIO BEARER RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration.
5	→		RADIO BEARER RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

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, with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

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

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

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 the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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".

After step 3 the UE shall keep its old configuration

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.7 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Continue and stop)

8.2.2.7.1 Definition

8.2.2.7.2 Conformance requirement

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.7.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATIO message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.7.4 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 including IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicate with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmit a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE don't transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
2	→		RADIO BEARER RECONFIGURATION COMPLETE	
3				The SS Shall communicate with the UE.
4		←	RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
5	→		RADIO BEARER RECONFIGURATION COMPLETE	
6				The SS shall not receive any data from the UE without Signalling message.

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_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	20
-RB stop/continue	"continue"

RADIO BEARER RECONFIGURATION (Step 4)

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 with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	20
-RB stop/continue	"stop"

8.2.2.7.5   Test requirement

After step 2 the UE shall communicate with the SS using new configuration.

After step 5 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

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_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				The UE select PRACH and S-CCPCH using SIB5 and SIB6 after entering CELL FACH state.
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.

8.2.2.8.5 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.

8.2.2.9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.2.9.1 Definition

8.2.2.9.2 Conformance requirement

The UE shall initiate cell update procedure when the UE performs cell reselection during radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.9.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURE COMPLETE message in cell2 after it completes a cell update procedure.

8.2.2.9.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.9

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.2.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.9 and begins to broadcast the BCCH on the primary CCPCH in a cell 2.The SS transmits a RADIO BEARER RECONFIGURATION message to the UE as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit RADIO BEARER RECONFIGURE COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.9.
2		←	BCCH	The SS transmit the BCCH on the primary CCPCH in the cell2.
3		←	RADIO BEARER RECONFIGURATION	This message include IE" Primary CPICH info"
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

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:

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH info - Primary scrambling code	 150

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

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:

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info - Cell parameters ID	 4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	 Assigned previously in cell 1 Assigned previously in cell 1 "radio link failure"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.2.9.5   Test requirement

After step 3, the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting IE "failure cause" to "cell reselection".

After step 7 the UE communicate with the SS on the DCCH and DTCH in cell2, using the common physical channel.

8.2.2.10   Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.10.1   Definition

8.2.2.10.2   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.

8.2.2.10.3   Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.10.4   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 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 from CELL_FACH in PS" in Annex A

8.2.2.10.5 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.

8.2.2.11 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.11.1 Definition

8.2.2.11.2 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 unsupported" 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 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: 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 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 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 (FDD)

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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RECONFIGURATION (TDD)

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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN (Nt)	 0

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unsupported Not checked

8.2.2.11.5   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 unsupported" in IE " failure cause".

8.2.2.12   Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.12.1   Definition

8.2.2.12.2   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 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.

8.2.2.12.3   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.

8.2.2.12.4   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 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

8.2.2.12.5   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".

8.2.2.13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.13.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION FAILURE message after it completes a cell update procedure.

8.2.2.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.2.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73
P-CCPCH RSCP (TDD)	dBm	-60	-75	switched off	-60

Table 8.2.2.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

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 SS does not reconfigure L1 such as catered to the new radio bearer settings. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. Then the UE finds a new cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGRATION message and delete the old configuration.
3				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.13.
4		←	BCCH	The SS starts to transmit the BCCH in cell 2 on the primary CCPCH.
5	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

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.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 9)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER RECONFIGURATION FAILURE (Step 9)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.2.13.5 Test requirement

After step 4 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 8 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.2.14 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.14.1 Definition

8.2.2.14.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.14.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.2.14.4 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_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGUTARION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO RECONFIGURATION SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	Including IE "Uplink DPCH info"
2		←	RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous message.
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration because of receiving the RADIO BEARER RECONFIGURATION message.
4	→		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ (Step 1) (FDD)

For PHYSICAL CHANNEL RECONFIGURATION ~~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 with the following exceptions.~~.~~

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH Info	
- Scrambling code number	1

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

For PHYSICAL CHANNEL RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions.

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	
Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.14.5 Test requirement

After step 1, SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

8.2.2.15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid 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 an invalid RADIO BEARER RECONFIGURATION message, which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" 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". The UE shall keep existing configuration before reception of a RADIO BEARER RECONFIGURATION message when the RADIO BEARER RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 it receives an invalid RADIO BEARER RECONFIGURATION message which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient", with criticality defined as "Reject".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to invalid value.

8.2.2.15.4 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 an invalid RADIO BEARER RECONFIGURATION message to the UE which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration when SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to invalid value. The UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	See message content.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
3		←	RADIO BEARER RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

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 with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

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

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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, which contain the cause "protocol error" in IE "failure cause" and "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.16   Radio Bearer Reconfiguration from CELL_FACH to CELL_ FACH: Success (Continue and Stop)

8.2.2.16.1   Definition

8.2.2.16.2   Conformance requirement

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.16.3   Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.16.4   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 to the UE, which includes IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicates with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmits a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE shall not transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message includes IE "RB stop/continue" for one of the signalling radio bearer.
2				The UE select PRACH and S-CCPCH, using SIB5 or SIB6.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	
4				The SS Shall communicate with the UE.
5		←	RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
6				The UE select PRACH and S-CCPCH, using SIB5 or SIB6.
7	→		RADIO BEARER RECONFIGURATION COMPLETE	
8				The SS shall not receive any data from the UE without Signalling message.

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 with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure -RB identity -RB stop/continue	 3 Set to "continue"

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

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 with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	3
-RB stop/continue	Set to "stop"

8.2.2.16.5 Test requirement

After step 3 the UE shall communicate with the SS using new configuration.

After step 7 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

8.2.2.17 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success

8.2.2.17.1 Definition

8.2.2.17.2 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.

8.2.2.17.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.17.4 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

Table 8.2.2.17

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-75	-75	-60
P-CCPCH (TDD)	dBm	-60	-75	-75	-60

Table 8.2.2.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state. 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		←	RADIO BEARER RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.17.The UE select PRACH and S-CCPCH using SIB5 or SIB6.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
   - Primary CCPCH info
    -Cell parameters ID
	
	4

8.2.2.17.5   Test requirement

After step 32 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC in cell 2 change its radio bearer configuration and be in CELL_FACH

After step 4 the UE shall communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.2.18 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.2.18.1 Definition

8.2.2.18.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.18.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE message in cell2 after complete a cell update procedure.

8.2.2.18.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.18

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec RSCP (FDD)	dBm/3.84 MHz	-73 -60	-79 -75	-75 switched off	-73 -60
P-CCPCH (TDD)	dBm	-60	-75	-75	-60

Table 8.2.2.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.
The UE is in the CELL_FACH state in cell 1. On transmitting a RADIO BEARER RECONFIGURATION message to the UE, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.18 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	This message include IE "Primary CPICH info"
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.9.
3		←	BCCH	The SS transmit the BCCH on the primary CCPCH in the cell 2.
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	The IE "failure cause" shall be set to "cell reselection"

Specific Message Contents

RADIO BEARER RECONFIGURATION ~~SETUP~~ (Step 1) (FDD)

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 code
	~~150~~ Not present

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 CCPCH info
        - Cell parameters ID
	Not present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark

U-RNTI
    - SRNC Identity
    - S-RNTI
Cell Update Cause
	
	Assigned previously in cell 1
	Assigned previously in cell 1
	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.18.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE transmits RADIO BEARER ~~SETUP~~RECONFIGURATION COMPLETE message on the DCCH using AM RLC

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

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 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: 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	For FDD, the IE "Secondary scrambling code" is set to "1Including IE "Uplink DPCH info"For TDD, the code combination is assigned by SS
1a				The SS set its Downlink DPCH scrambling code to "1".
2		←	RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different to that assigned in 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) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.2.20 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 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: 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	For FDD, the IE "Secondary scrambling code" is set to "1Including IE "Uplink DPCH info" For TDD, the code combination is assigned by SS
1a (FDD)			The SS set its Downlink DPCH scrambling code to "1".	
1a (TDD)			A code combination is assigned for the SS.	
2		←	RADIO BEARER RECONFIGURATION	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different to that assigned in 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_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

RADIO BEARER RECONFIGURATION (step 1) (FDD)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.2.21   Radio Bearer Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.2.21.1   Definition

8.2.2.21.2   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.

8.2.2.21.3   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.

8.2.2.21.4   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) (FDD)

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
RRC State Indicator	CELL_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.21.5   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.

8.2.2.22 Radio Bearer Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.2.22.1 Definition

8.2.2.22.2 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.

8.2.2.22.3 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.

8.2.2.22.4 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
RRC State Indicator	URA_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CCPCH info
    -Cell parameters ID
	
	4

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 Used paging identity
   - U-RNTI
    - SRNC Identity
    - S-RNTI
	
	UTRAN identity
	
	Previously assigned SRNC identity
	Previously assigned S-RNTI

8.2.2.22.5   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.

8.2.2.23   Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.2.23.1   Definition

8.2.2.23.2   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.

8.2.2.23.3   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) (FDD)

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
RRC State Indicator	CELL_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info -Cell parameters ID	 4

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 Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

8.2.2.23.5   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.

8.2.2.24   Radio Bearer Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.2.24.1   Definition

8.2.2.24.2   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.

8.2.2.24.3   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.

8.2.2.24.4   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 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 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) (FDD)

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
RRC State Indicator	URA_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CCPCH info
      -Cell parameters ID
	
	4

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 Used paging identity
    - U-RNTI
     - SRNC Identity
     - S-RNTI
	
	UTRAN identity
	
	Previously assigned SRNC identity
	Previously assigned S-RNTI

8.2.2.24.5   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: CS-DCCH+DTCH_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.

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 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 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: CS-DCCH+DTCH_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 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 (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN (Nt)	 0

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unsupported 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 "failure cause" set to "configuration 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: CS-DCCH+DTCH_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 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 annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.3.5 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 a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.4.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after completes a cell update 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: 1 cell.

UE: CS-DCCH+DTCH_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 transmits a RADIO BEARER RELAESE message to the UE but does not configure L1 in accordance with the settings in the message. As a result, the UE recognize that it cannot reconfigure the radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration and the UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL

CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				The SS does not configure the dedicated physical channel in accordance with The RADIO BEARER RELEASE message and shall not use old configuration.
3	→		CELL UPDATE	This message include the value "radio link failure" set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
5				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

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.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- 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
- DL channelisation code	
- Secondary scrambling code	2
- 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
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
UplinkDPCH timeslots and codes	Same as RADIO_BEARER_SETUP message used to move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition

RADIO BEARER RELEASE FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RELEASE FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.3.4.5   Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 9 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a RADIO BEARER RELAESE message whilst reconfiguring due to a radio bearer message other than RADIO RELEASE SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration according to the previously received message.

8.2.3.5.4 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 SETUP message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
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 due to the reception of RADIO BEARER RELEASE message.
4	→		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION SETUP (Step 1) (FDD)

The contents of RADIO SETUP 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:

-	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (TDD)

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

Uplink DPCH timeslots and codes
     - First timeslot code list
Downlink information common for all radio links
     - Downlink DPCH info common for all RL
          - Timing Indicator
	Assigned by SS
	
	Maintain

RADIO BEARER RELEASE (Step 2) (FDD)

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 RECONFIGURATION (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes - First timeslot code list	 A different code combination to that used in step 1.

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 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.6.1 Definition

8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a RADIO BEARER RELEASE message when the RADIO BEARER RELEASE message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

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 an invalid RADIO BEARER RELEASE message, which uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

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 including some IEs set to invalid value.

8.2.3.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_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 an invalid RADIO BEARER RELEASE message to the UE which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits RADIO BEARER RELEASE message including some IEs set to invalid value. The UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	See message content.
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.
3		←	RADIO BEARER RELEASE	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step1)
The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

RADIO BEARER RELEASE FAILURE (Step 2)

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

RADIO BEARER RELEASE (Step 3) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RELEASE (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RELEASE FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure 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: PS-DTCH+DCCH_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				The UE select PRACH and S-CCPCH using SIB5 and SIB6 after entering CELL FACH state. The UE shall release radio bearers on dedicated transport channels, and reconfigure the remaining radio bearers using the selected common control channel.
3	→		RADIO BEARER RELEASE COMPLETE	UE shall be able to continue communication over the remaining radio bearers using the 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).

8.2.3.8   Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.3.8.1   Definition

8.2.3.8.2   Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer release procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer release procedure and correctly release the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.8.3   Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after the UE completes a cell update procedure.

8.2.3.8.4   Method of test

Initial Condition

System Simulator: 2 cells No.1 is active, No.2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.3.8

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.3.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell No.1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.8 and broadcast BCCH on the primary CCPCH in cell 2 . The SS transmit a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH. The UE reselects cell 2 and initiates the cell update procedure. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.8
2		←	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
3		←	RADIO BEARER RELEASE	Assigned the transition from CELL_DCH to CELL_FACH
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 3) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CPICH info
        - Primary scrambling code
	150

RADIO BEARER RELEASE (Step 3) (TDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CCPCH info
        - Cell parameters ID
	4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark

U-RNTI
  - SRNC Identity
  - S-RNTI
Cell Update Cause
	
	Assigned previously in cell 1
	Assigned previously in cell 1
	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in annex A with the following exceptions:

Information Element	Value/remark

U-RNTI
New U-RNTI
  - SRNC Identity
  - S-RNTI
New C-RNTI
	Same as CELL UPDATE message in step 7
	
	'0000 0000 0000 0001'
	Different from previous S-RNTI
	Different from previous C-RNTI

8.2.3.8.5   Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.3.9 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.9.1 Definition

8.2.3.9.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.9.3 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.

8.2.3.9.4 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 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

8.2.3.9.5 Test requirement

After step3 the UE shall stop communicating on the released radio bearers, and resume all stopped radio bearer using the dedicated physical channel allocated.

8.2.3.10 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.10.1 Definition

8.2.3.10.2 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 unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.10.3 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.

8.2.3.10.4 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 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 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 (FDD)

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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

Information Element	Value/remark
Frequency info - UARFCN (Nt)	0

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.3.10.5 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 unsupported" in IE "failure cause".

8.2.3.11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.11.1 Definition

8.2.3.11.2 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 8.2.3.

8.2.3.11.3 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.

8.2.3.11.4 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 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

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

8.2.3.11.5 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".

8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.3.12.1 Definition

8.2.3.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.12.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after it completes a cell update procedure following a physical channel failure during the radio bearer release.

8.2.3.12.4   Method of test

Initial Condition

System Simulator: 2 cells - Cell.1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell No.1.

Test Procedure

Table 8.2.3.12

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-75	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.3.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RELAESE message to the UE, but it does not configure L1 in accordance to the settings in the message. 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. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.12 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE shall find cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits RADIO RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "cell reselection".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				The SS does not configure L1 in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.12.
3	←		BCCH	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4	→		CELL UPDATE	The UE finds a new cell 2 and enter CELL_FACH state. This message include the value "cell reselection" set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER RELEASE FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RELEASE FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.3.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.3.13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.13.1 Definition

8.2.3.13.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.13.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration according to the previously received message.

8.2.3.13.4 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_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RELEASE message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	RADIO BEARER 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 message in step 1.
3	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER SETUP message..
4	→		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION ~~SETUP~~ (Step 1) (FDD)

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 RECONFIGURATION (Step 1) (TDD)

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]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RELEASE (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.13.5 Test requirement

After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO SETUP message.

8.2.3.14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.14.1 Definition

8.2.3.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a RADIO BEARER RELEASE message when the RADIO BEARER RELEASE message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.14.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

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 including some IEs set to invalid value.

8.2.3.14.4　　　　　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 an invalid RADIO BEARER RELAESE message to the UE containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits RADIO BEARER RELEASE message including some IEs set to invalid value. The UE transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	See message content.
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.
3		←	RADIO BEARER RELEASE	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step 3)

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 with the following exceptions:

Information Element	Value/remark
UTRAN DRX Indicator	Out of range value

RADIO BEARER RELEASE FAILURE (Step 2)

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

RADIO BEARER RELEASE (Step 3) (FDD)

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 with the following exceptions:

Information Element	Value/remark

Added or Reconfigured UL TrCH information
   - Uplink transport channel type
   - UL Transport channel identity
   - TFS
   - Dynamic Transport format information
   - RLC size
   - CHOICE Logical Channel list
   - RB identity
   - LogicalChannel
	
	DCH
	1
	
	(This IE is repeated for TFI number)
	Reference to TS34.108 clause 6.10 Parameter Set
	Explicit List
	4
	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RELEASE (Step 3) (TDD)

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 with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RELEASE FAILURE (Step 5)

Information Element	Value/remark
Message Type Failure cause Other information element	 Invalid configuration Not checked

8.2.3.14.5 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".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.3.15 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.15.1 Definition

8.2.3.15.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.15.3 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.

8.2.3.15.4 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 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 select PRACH and S-CCPCH using SIB5 and SIB6. 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

8.2.3.15.5 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.

8.2.3.16 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 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: 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 UE	Direction SS	Message	Comment
1		←	RADIO BEARER RELEASE	For FDD the SS set its Downlink DPCH scrambling code to "1".
1a				The SS set its Downlink DPCH scrambling code to "1".
2		←	RADIO BEARER RELEASE	Message sent before. the expiry of "activation time" specified in message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different ftrom that assigned in stage 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) (FDD)

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 1) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title " Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
Uplink DPCH timeslots and codes - First timeslot code list	 Assigned by SS

RADIO BEARER RELEASE (Step 2) (FDD)

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 - DL channelisation code - Secondary scrambling code	Not Present 2

RADIO BEARER RELEASE (Step 2) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

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.

8.2.3.17 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 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: 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 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	For FDD mode the SS set its Downlink DPCH scrambling code to "1".
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2		←	RADIO BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of RADIO BEARER RELEASE message in step 1. For FDD t~~T~~he IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different from that assigned in stage 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) (FDD)

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 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 1) (TDD)

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" as 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
Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RELEASE (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

RADIO BEARER RELEASE (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.3.18 Radio Bearer Release from CELL_DCH to CELL_PCH: Success

8.2.3.18.1 Definition

8.2.3.18.2 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.

8.2.3.18.3 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.

8.2.3.18.4 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) (FDD)

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
RRC State Indicator	CELL_PCH

RADIO BEARER RELEASE (Step 1) (FDD)

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
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.3.18.5   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.

8.2.3.19 Radio Bearer Release from CELL_DCH to URA_PCH: Success

8.2.3.19.1 Definition

8.2.3.19.2 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.

8.2.3.19.3 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.

8.2.3.19.4 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) (FDD)

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
RRC State Indicator	URA_PCH

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.3.19.5 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

8.2.4.1 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 SS 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 is active and cell 2 is inactive

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Table 8.2.4.1

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.1 and broadcast BCCH on the primary CCPCH in cell 2. 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				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.1
2	←		BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
3	←		TRANSPORT CHANNEL RECONGURATION	Hard handover to cell 2. Including UE information elements("TFS"I)
4				UE shall stop all uplink transmissions and reconfigure itself to use the new transport channel parameters
5	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

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	Number of Transport blocks = 2
-Downlink transport Channels	
-Added or Reconfigured TrCH information list	
	Number of Transport blocks = 2
Downlink information for each radio links	Same downlink UARFCN as used for cell 2
- Primary CPICH info	
- Primary Scrambling Code	150
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Initialise

TRANSPORT CHANNEL RECONFIGURATION (TDD)

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
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used previously.
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

8.2.4.1.5 Test requirement

After step 3 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 5 the UE shall continue to communicate with the SS on the DCCH and DTCH in 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 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 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: 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 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 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 (FDD)

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
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 (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN (Nt)	0

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	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 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 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 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: 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 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

The UE shall perform a cell update upon failure of reconfiguration for a transport channel because of physical channel failure and reversion. After the UE completes cell update procedure, the UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.4.3 Test purpose

To confirm that the UE transmits RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update 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.

8.2.4.4.4   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 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. The message specifies a new set of transport channel parameters but the SS does not reconfigure L1 correspondingly. The UE cannot reconfigure the new transport channel and shall attempt to revert to the old configuration. But SS shall not revert to old configuration. The UE cannot revert to the old configuration and then transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Specifies the use of a new setting for transport channel.
2				The SS does not reconfigure L1 in accordance with TRANSPORT CHANNEL RECONFIGURTION message and shall not use old configuration.
3	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
5				The SS change physical channel configuration according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- 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
- DL channelisation code	
- Secondary scrambling code	2
- 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
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 4) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO_BEARER_SETUP message used to move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to initial condition

TRANSPORT CHANNELRECONGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONGURATION"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.4.4.5 Test requirement

After step 2 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.5.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.4.5.4 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 to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures

the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info"for FDD mode and
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 due to the reception of TRANSPORT CHANNEL RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

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.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the corresponding message found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination that used previously.

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 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.4.6 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.6.1 Definition

8.2.4.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which makes use of a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 RECONFIGRATION message comprises an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.4.6.4   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 an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	See message content.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.
3		←	TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

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

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS"as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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 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".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

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 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 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: 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 TRANSPORT CHANNEL RECONFIGURATION message to the UE and the UE performs 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

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 Void

8.2.4.9 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.4.9.1 Definition

8.2.4.9.2 Conformance requirement

The UE shall initiate a cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.9.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure.

8.2.4.9.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.4.9

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.4.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.9 and broadcast BCCH on the primary CCPCH in cell 2. Then, the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The UE shall select cell 2 by performing cell re-selection and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.9.
2	←		BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
3	←		TRANSPORT CHANNEL RECONGURATION	This message include IE" Primary CPICH info".
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		TRANSPORT CHANNEL COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH info - Primary scrambling code	 150

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info - Cell parameters ID	 4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	 Assigned previously in cell 1 Assigned previously in cell 1 "radio link failure"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.4.9.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit TRANSPORT CHANNEL COMPLETE message on the DCCH using AM.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.4.10 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success

8.2.4.10.1 Definition

8.2.4.10.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION message, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.10.3 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.

8.2.4.10.4 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 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.

8.2.4.10.5 Test requirement

After step 3 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.

8.2.4.11 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.4.11.1 Definition

8.2.4.11.2 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 unsupported" 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 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.

8.2.4.11.4 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 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 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 (FDD)

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 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 (TDD)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN (Nt)	 0

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.4.11.5   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 unsupported" in IE "failure cause" of the message.

8.2.4.12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old channel)

8.2.4.12.1 Definition

8.2.4.12.2 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 message to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.12.3 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.

8.2.4.12.4 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_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	TRANSPORT CHANNEL RECONFIGURATION FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.12.5   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".

8.2.4.13   Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.13.1   Definition

8.2.4.13.2   Conformance requirement

The UE shall initiate a cell update procedure when it selects another cell, following a physical channel failure in the transport channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit 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.

8.2.4.13.3   Test purpose

To confirm that the UE transmits RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure, when the UE cannot reconfigure the new transport channel for the failure of L1 configuration.

8.2.4.13.4   Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.4.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)RSCP	DBm/ 3.84 MHz	-60~~73~~	-75~~79~~	-75~~switched off~~	-60 ~~73~~
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.4.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in a cell 1. The SS 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, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. As a result, the UE cannot reconfigure the new transport channel. The UE find that cell 2 is available, camp onto it, and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	
2				The SS does not reconfigure L1 and transport channel in accordance with the settings in the message, and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.13.
3		←	BCCH	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4				The UE shall find cell 2, camp onto it,
5	→		CELL UPDATE	This message include the value "cell reselection" set in IE "Cell update cause".
6		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		TRANSPORT CHANNEL RECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

TRANSPORT CHANNELRECONGURATION FAILURE (Step 8)

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONGURATION"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.4.13.5 Test requirement

After step 4 the UE shall transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.4.14 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.14.1 Definition

8.2.4.14.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.14.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.4.14.4 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_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE

reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER 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 due to the reception of RADIO BEARER SETUP message.
4	→		RADIO BEARER RECONFIGURATION COMPLETEFAILURE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

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.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

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.

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination that used previously .

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.14.5 Test requirement

After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.4.15 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.15.1 Definition

8.2.4.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which includes an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.15.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.4.15.4 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 an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	See message content.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.
3		←	TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid 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_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

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

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.4.15.5 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. 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".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.4.16 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.16.1 Definition

8.2.4.16.2 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.

8.2.4.16.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.16.4   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

Table 8.2.4.16

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/ 3.84 MHz	-60	-75	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

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. The UE reconfigures the new transport channel and the new physical channel according to the system information messages. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	
2				Reconfiguration of a new transport channel
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

TRANSPORT CHANNEL RECONFIGURATION (TDD)

Use 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
Downlink information for each radio links - Primary CCPCH info - Cell parameters ID	4

Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_FACH and continue to communicate with the SS on the DCCH using the existing transport channel.

8.2.4.17 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.4.17.1 Definition

8.2.4.17.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE complete cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.17.3 Test purpose

To confirm that the UE transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure.

8.2.4.17.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.4.17

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec~~RSCP~~ (FDD)	DBm/ 3.84 MHz	-60~~73~~	-75~~79~~	-75 ~~switched off~~	-60~~73~~
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.4.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting a TRANSPORT CHANNEL RECONFIGURATION message, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.17 and broadcast BCCH on the primary CCPCH in cell 2. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure.. The UE transmit CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	TRANSPORT CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info"
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.17.
3		←	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		TRANSPORT CHANNELRECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Use 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
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

Use 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
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	Not present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.4.17.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit TRANSPORT CHANNEL FAILURE message on the DCCH using AM RLC.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

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 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: 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	For FDD the "Secondary scrambling code is set to "1"Including IE "Uplink DPCH info"and for TDD , the code combination is assigned by SS
1a				The SS set its Downlink DPCH scrambling code to "1".
2		←	TRANSPORT CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in TRANSPORT CHANNEL SETUP message of step 1. For FDD tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different from that assigned in stage 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 with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.4.19 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 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: 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	For FDD the "Secondary scrambling code is set to "1"and for TDD , the code combination is assigned by SS ~~Includes the IE "Uplink DPCH info"~~
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1. For FDD t~~T~~he IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different that assigned in stage 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) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned in step 1

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.4.20   Transport Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.4.20.1   Definition

8.2.4.20.2   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.

8.2.4.20.3   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.

8.2.4.20.4   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 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) (FDD)

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
RRC State Indicator	CELL_PCH

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

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
RRC State Indicator	CELL_PCH
- Primary CCPCH info	
- Cell parameters ID	4

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.4.20.5 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.

8.2.4.21 Transport Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.4.21.1 Definition

8.2.4.21.2 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.

8.2.4.21.3 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.

8.2.4.21.4 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) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex with following
exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex with following
exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
- Primary CCPCH info	
- Cell parameters ID	4

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.4.21.5 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.

8.2.5 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 the value in IE "Allowed Transport format combination index".

8.2.5.1.4 Method of test

Initial Condition

System Simulator: 1cell
UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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	The UE shall use the TFC Subset as defined in value IE " 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 -Allowed Transport format combination list	
- Allowed transport format combination	0 and 3(If initial state is "state 6-9")
- Allowed transport format combination	0 and 5(If initial state is "state 6-10")

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 include IE "Minimum allowed transport format combination set".

8.2.5.2.4 Method of test

Initial Condition

System Simulator: 1cell.
UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 include "Minimum allowed transport format combination set".

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. 2.5.1.
2		←	TRANSPORT FORMAT COMBINATION CONTROL	Use the TFCS according to IE "Minimum allowed Transport format combination index".
3				The UE begins to transmit the data on the DTCH.

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
TrCH information elements	
-Minimum allowed transport format combination set	5(If initial state is "state 6-9")
-Minimum allowed transport format combination set	6(If initial state is "state 6-10")

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 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 message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message is received.

8.2.5.3.4   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 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 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"
RRC transaction identifier	0
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 and Invalid configuration)

8.2.5.4.1   Definition

8.2.5.4.2   Conformance requirement

The UE shall keep old configuration when it receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message. It shall then transmit 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". The UE shall keep existing configuration before reception of a TRANSPORT FORMAT COMBINATION CONTROL message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keep the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL message has been received.
To confirm that the UE transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to invalid value.

8.2.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell.
UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits an invalid TRANSPORT FORMAT COMBINATION CONTROL message. The UE shall then transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and continues the communication using the radio access bearer. The UE keeps initial configuration and SS transmits TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to invalid value. The UE transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on the DTCH for a communication
2	←		TRANSPORT FORMAT COMBINATION CONTROL	See message content.
3	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change the configuration
4	←		TRANSPORT FORMAT COMBINATION CONTROL	This message includes IE set to invalid value
5				The UE does not change the configuration
6	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The IE "failure cause" shall be set to "invalid configuration"

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Information Element	Value/remark
DPCH TFCS in uplink - Minimum allowed Transport format combination index	Set to the value "MaxTFCValue"

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 3)

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

TRANSPORT FORMAT COMBINATION CONTROL(Step 4)

Information Element	Value/remark
TrCH information elements	
- Allowed Transport format combination list	
- Allowed transport format combination	10

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 6)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	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.
After step 4 the UE shall keep its old configuration.
After step 5 the UE shall transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

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 is active, Cell 2 is inactive.
UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.6.1

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.6.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.
The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.1 and broadcast BCCH on the primary CCPCH in cell 6. 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				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.1.
2	←		BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	←		PHYSICAL CHANNEL RECONFIGURATION	Including new frequency information.
4				UE shall stop uplink activities to cell 1 and begin to reconfigure the physical channel parameters.
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

<u>PHYSICAL CHANNEL RECONFIGURATION (FDD)</u>

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)
      - UARFCN downlink(Nd)
Downlink information for each radio links
      - Primary CPICH info
       - Primary Scrambling Code
Downlink information common for all radio links
     - Downlink DPCH info common for all RL
      - Timing Indicator
	
	Same uplink UARFCN as used for cell 6
	Same downlink UARFCN as used for cell 6
	Same downlink UARFCN as used for cell 6
	
	350
	
	Initialise

<u>PHYSICAL CHANNEL RECONFIGURATION (TDD)</u>

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

8.2.6.1.5   Test requirement

After step 4 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC in cell 6.
After step 5 the UE communicate with SS, using DTCH and DCCH on the new dedicated physical channel in cell 6.

8.2.6.2   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Unsupported 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 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: 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 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 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 (FDD)

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
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION (TDD)

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
Frequency info - UARFCN (Nt)	 0

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	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 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: 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 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 UL scrambling code for FDD and First timeslot code list for TDD~~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 (FDD)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

PHYSICAL CHANNEL RECONFIGURATION (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

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 a cell update 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. After the UE completes cell update procedure, the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.4.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update 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 6 is inactive
UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Table 8.2.6.4

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.6.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.
The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.4 and broadcast BCCH on the primary CCPCH in cell 2.The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new uplink and downlink frequency parameters of cell 6, but the SS does not configure any dedicated physical channel in cell 6. The UE is expected to fail to reconfigure the new dedicated physical channel and tries to revert to the old configuration. But the SS already deleted the old physical channel configuration and the UE cannot revert old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.4.
2	←		BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	←		PHYSICAL CHANNEL RECONFIGURATION	The message includes new UL scrambling code for FDD and First timeslot code list for TDD frequency information
4				SS does not configure any dedicated physical channel in cell 6, 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.
5	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
6	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
7				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
9	→		PHYSICAL CHANNELRECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 6) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
RRC State indicator	CELL_DCH
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- 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
- DL channelisation code	
- Secondary scrambling code	2
- 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
- SCCPCH information	Not Present

CELL UPDATE CONFIRM (Step 6) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to initial condition

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 9)

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.6.4.5 Test requirement

After step 2 the UE shall transmits CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "radio link failure" in cell 1.

After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION SETUP, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.5.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.6.5.4 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 to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER 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 due to the reception of PHYSICAL CHANNEL RECONFIGURATION FAILURE message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

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.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

PHYSICAL CHANNEL RECONFIGURATION (Step 2) (FDD)

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
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION (Step 2) (TDD)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Different as assigned in Step 1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

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 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.
After step 2 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".
After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.6.6   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Invalid message reception and Invalid configuration)

8.2.6.6.1   Definition

8.2.6.6.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message, which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 an invalid PHYSICAL CHANNEL RECONFIGURATION message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

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 including some IEs set to invalid value.

8.2.6.6.4   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 an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE, with a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	See message content.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
3		←	PHYSICAL CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

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_DCH from CELL_DCH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

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

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

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
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- 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
- 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
- SCCPCH information	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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".
After step 3 the UE shall keep its old configuration.
After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

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_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 and the system information messages. 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.

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: Success (Cell re-selection)

8.2.6.8.1 Definition

8.2.6.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.8.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after the UE completes a cell reselection and cell update procedure.

8.2.6.8.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive
UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.8

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.6.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.
The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.8 and broadcast BCCH on the primary CCPCH in cell 2.The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8. The SS starts to broadcast BCCH on the primary CCPCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info" for FDD and Primary CCPCH info for TDD.
3				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8.
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CPICH info
      - Primary scrambling code
	
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PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark

Downlink information for each radio links
    - Primary CCPCH info
      - Cell parameters ID
	
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CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.6.8.5   Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".
After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.
After step 6 UE shall transmit PHYSICAL CHANNEL COMPLETE message on the DCCH using AMRLC.
After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.6.9   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success

8.2.6.9.1   Definition

8.2.6.9.2   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.

8.2.6.9.3   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.

8.2.6.9.4   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 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 for FDD and Annex A for TDD.
.

8.2.6.9.5 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.

8.2.6.10 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.6.10.1 Definition

8.2.6.10.2 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 unsupported" 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 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.

8.2.6.10.4 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 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 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 (FDD)

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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN (Nt)	 0

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unsupported Not checked

8.2.6.10.5   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 unsupported".

8.2.6.11 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.6.11.1 Definition

8.2.6.11.2 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.

8.2.6.11.3 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.

8.2.6.11.4 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. 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 for FDD and Annex A for TDD.
.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.11.5   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".

8.2.6.12   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.12.1   Definition

8.2.6.12.2   Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.12.3   Test purpose

To confirm that the UE initiates a cell update procedure after it fails to reconfigure the new physical channel and selects another cell..
To confirm that UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes cell update procedure.

8.2.6.12.4   Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive
UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Table 8.2.6.12

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~Ec~~ RSCP (FDD)	dBm	-~~73~~60	-~~79~~75	-75~~switched off~~	-~~73~~60
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.6.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but the SS does not reconfigure L1 accordingly. The SS configures its downlink transmission power settings according to columns "T1"in Table 8.2.6.12. As a result, the UE fail to reconfigure new physical channel and reselect to cell 2 and then the UE sends a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				The SS does not configure the new dedicated physical channel in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.12.
3		←	BCCH	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4	→		CELL UPDATE	This message includes the value "cell reselection " set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	This message includes IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	UE shall send this message in the cell 2.
7	→		PHYSICAL CHANNEL RECONGURATION FAILURE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A for FDD and Annex A for TDD.
.

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.6.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "cell reselection"..
After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.
After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.6.13 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.13.1 Definition

8.2.6.13.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.13.3   Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.6.13.4   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_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER 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 due to the reception of PHYSICAL CHANNEL RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 14) (FDD)

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.

RADIO BEARER RECONFIGURATION (Step 4) (TDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions

Information Element	Value/remark
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Current CFN-[current CFN mod 8 + 8] Assigned by SS

PHYSICAL CHANNEL RECONFIGURATION (Step 52) (FDD)

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-with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION (Step 5) (TDD)

For PHYSICAL CHANNEL RECONFIGURATION in step 5, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not present Different as assigned previously

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 63)

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.13.5   Test requirement

After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.
After step 2 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".
After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.6.14   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.6.14.1   Definition

8.2.6.14.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration"

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.14.3 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 an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".
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 including some IEs set to invalid value.

8.2.6.14.4 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 an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE which comprises a defined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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". The UE keeps initial configuration and SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	See message content.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
3		←	PHYSICAL CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4				The UE does not change the configuration
5	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

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_DCH from CELL_FACH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

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

PHYSICAL CHANNEL RECONFIGURATION (Step 36) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Uplink DPCH info	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 6) (TDD)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 57)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.6.14.5   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".
After step 3 the UE shall keep its old configuration.
After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.6.15   Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH (Hard handover to another frequency): Success

8.2.6.15.1   Definition

8.2.6.15.2   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.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.15.3   Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.15.4   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

Table 8.2.6.15

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm	-60	-75	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

The UE is in the CELL_FACH 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 and the system information messages. 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 (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (TDD)

Use 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

Downlink information for each radio links
   - Primary CCPCH info
    -Cell parameters ID
	
	4

8.2.6.15.5 Test requirement

After step 3 the UE shall be in CELL_FACH state and continue to communicate with SS on the common physical channel.

8.2.6.16 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: (Cell re-selection)

8.2.6.16.1 Definition

8.2.6.16.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel..

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.16.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after the UE completes a cell reselection and cell update procedure.

8.2.6.16.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive
UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.16

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH EcRSCP(FDD)	dBm	-6073	-7579	-75swit ched off	-6073
P-CCPCH RSCP (TDD)	dBm	-60	-75	-75	-60

Table 8.2.6.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting a PHYSICAL CHANNEL RECONFIGURATION message, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.1.9 and broadcast BCCH on the primary CCPCH in cell 2. The UE shall initiate the cell update procedure and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info" (FDD).
2				The UE shall detect a failure to transmission power settings, according to the values in columns "T1" of Table 8.2.6.16.
3		←	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		PHYSICAL CHANNELRECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

Use 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
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

Use 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
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	Not Present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.6.16.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".
After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.
After step 6 the UE shall transmit PHYSICAL CHANNEL COMPLETE message on the DCCH using AM RLC.
After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

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_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	For FDD mode the "Secondary scrambling code is set to "1". For TDD mode a code combination is assigned by SS.
1a				The SS set its Downlink DPCH scrambling code to "1".
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different to that assigned in stage 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 (Step1) (FDD)

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 for FDD and Annex A for TDD
with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned in step 1

PHYSICAL CHANNEL RECONFIGURATION (Step2) (FDD)

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
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

PHYSICAL CHANNEL RECONFIGURATION (Step2) (TDD)

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
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.6.18   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_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	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
1~~4~~		←	PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1" for FDD mode and A code combination is assigned by SS for TDD
1a				~~The SS set its Downlink DPCH scrambling code to "1".~~
2		←	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 4~~1~~. For FDD t~~T~~he IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different from that assigned in stage 4
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 5~~2~~ and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 4~~1~~.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 4~~1~~) (FDD)

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 for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

PHYSICAL CHANNEL RECONFIGURATION (Step 4) (TDD)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned in step 1

PHYSICAL CHANNEL RECONFIGURATION (Step 5~~2~~) (FDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	☐

PHYSICAL CHANNEL RECONFIGURATION (Step 5) (TDD)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH timeslots and codes	
- First timeslot code list	A different code combination to that used in step 1.

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.

8.2.6.19   Physical Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.6.19.1   Definition

8.2.6.19.2   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

8.2.6.19.3 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.

8.2.6.19.4 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) (FDD)

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
RRC State Indicator	CELL_PCH

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

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
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A for FDD and Annex A for TDD with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.19.5 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.

8.2.6.20 Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.6.20.1 Definition

8.2.6.20.2 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

8.2.6.20.3 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.

8.2.6.20.4 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) (FDD)

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
RRC State Indicator	URA_PCH

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A for FDD and Annex A for TDD with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.20.5   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.

8.2.6.21 Void

8.2.6.22 Void

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 Void

CR-Form-v5

CHANGE REQUEST

| ⌘ | **34.123-1** CR **156** | ⌘**rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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:	⌘	Modifications of MM test cases
Source:	⌘	FUJITSU LIMITED
Work item code: ⌘	TEI	***Date:*** ⌘ 21 February 2002

Category:	⌘	**F**	***Release:*** ⌘	REL-4

Use <u>one</u> of the following categories:
F *(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 <u>one</u> 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 clarify the radio conditions of multi-cell environment.
	-	Modification of incorrect test case 9.4.5.4 as it is based on an R97 function that has been modified in Rel99. The new test covers both the basic functionality (modified in March 01) and the interaction with ePLMN.
	-	Some editorial errors are remained.

Summary of change: ⌘	-	Clarify the radio conditions of multi-cell environment with describing the cell type in the expected sequence. The definitions of the cell type are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".
	-	Modify the test cases 9.4.5.4.1, 9.4.5.4.2 and 9.4.5.4.~~1~~3 to cover the basic functionality and the interaction with ePLMN.
	-	Modify some editorial errors.

Consequences if not approved:	⌘	Inconsistencies with the core specification, unclear radio conditions in multi-cell environment and editorial mistakes are left.

Clauses affected:	⌘	9.1.4, 9.2.2.4, 9.4.1.4, 9.4.2.1.4, 9.4.2.2.4.1, 9.4.2.2.4.2, 9.4.2.2.5, 9.4.2.3.4, 9.4.2.4.2, 9.4.2.4.4, 9.4.2.5.4, 9.4.3.2.4, 9.4.3.3.4, 9.4.4.4, 9.4.5.3.4, 9.4.5.4.1.2, 9.4.5.4.1.3, 9.4.5.4.1.4, 9.4.5.4.1.5, 9.4.5.4.2.2, 9.4.5.4.2.3, 9.4.5.4.2.4, 9.4.5.4.3.2, 9.4.5.4.3.3, 9.4.5.4.3.4, 9.4.6.4, 9.5.7.1.4

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

Other comments:	⌘	Affects R99 and REL-4.

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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 Definition

9.1.2 Conformance requirement

1) A 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 USIM when the UE is correctly deactivated in accordance with the manufacturer's instructions.

3) A UE shall answer paging with this TMSI and includes it in the PAGING RESPONSE message.

Reference(s)

TS 24.008 clause 4.3.1.

9.1.3 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.

9.1.4 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, 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.

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 s. 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 terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" = TMSI1. Establishment Cause: Terminating Conversation Call.
2	→		PAGING RESPONSE	"Mobile identity" =TMSI1
2a		←	AUTHENTICATION REQUEST	
2b	→		AUTHENTICATION RESPONSE	
3		←	SECURITY MODE COMMAND	
4	→		SECURITY MODE COMPLETE	
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	→		RRC CONNECTION RELEASE COMPLETE	
9	UE			If possible (see ICS), the UE is switched off.
9a	UE			The power supply is interrupted for 10 s.
10	UE			The UE is switched on.
11	SS			The SS waits an amount of time which is enough to guarantee that the UE is in service (listening to its paging subchannel).
12		←	Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" = TMSI2. Establishment Cause: Terminating Conversation Call.
13	→		PAGING RESPONSE	"Mobile identity" =TMSI2.
14		←	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
15	→		RRC CONNECTION RELEASE COMPLETE	
16	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.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell" (NOTE)
17	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
18		←	RRC CONNECTION SETUP	
19	→		RRC CONNECTION SETUP COMPLETE	
20	→		LOCATION UPDATING REQUEST	location updating type = normal, "ciphering key sequence number" = CKSN, LAI = b, "mobile identity" = TMSI2.
20a		←	AUTHENTICATION REQUEST	
20b	→		AUTHENTICATION RESPONSE	
20c		←	SECURITY MODE COMMAND	
20d	→		SECURITY MODE COMPLETE	
21		←	TMSI REALLOCATION COMMAND	TMSI = TMSI1.
22	→		TMSI REALLOCATION COMPLETE	
23		←	LOCATION UPDATING ACCEPT	This message does not contain the optional Mobile Identity field.
24		←	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.
25	→		RRC CONNECTION RELEASE COMPLETE	
26		←	Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains the new TMSI (= TMSI1). "Establishment cause": Terminating Conversational Call.
27	→		PAGING RESPONSE	"Mobile identity" IE contains the new TMSI (= TMSI1).

Step	Direction		Message	Comments
	UE	**SS**		
28		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
29	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.1.5 Test requirement

At step 5 the UE shall receive and acknowledge a new TMSI (TMSI2) and has stored that in the USIM, and the UE is switched off and on after step 9 and 10.

At step 13 the UE shall transmit a new TMSI2 and includes it in the PAGING RESPONSE message.

At step 27 the UE shall answer paging with this TMSI1 and includes it in the PAGING RESPONSE message.

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 and test USIM shall incorporate a test algorithm for generating RES and CK, IK from RAND, AUTN and IK which operates as described in TS 34.108 clause 8.1.2.

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 clauses 4.3.2.2 and 4.3.2.4.

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 RES 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.

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 Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
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	→		RRC CONNECTION RELEASE COMPLETE	
7			Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
8	→		PAGING RESPONSE	"Ciphering key sequence number" shall be the same as the value that was sent in the last AUTHENTICATION REQUEST message (= CKSN2).
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.2.1.5 Test requirement

1) At step 4 the UE shall send an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the XRES calculated by the SS.

2) At step 8 the UE shall indicate in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

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 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 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 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 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 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 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.

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 Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call..
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.
7	→		RRC CONNECTION RELEASE COMPLETE	
8	←		PAGING TYPE 1	The UE is paged in cell B. "UE identity " IE contains TMSI. Paging Cause: Terminating Conversational Call.
9	UE			The UE shall ignore this message. This is verified during 3 s.
10	SS			The SS waits for at least for 15 s.
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 s.
13	UE			If the UE supports speech (see ICS), an emergency call is attempted.
14	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
15	←		RRC CONNECTION SETUP	
16	→		RRC CONNECTION SETUP COMPLETE	
17	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment. "Mobile identity": type of identity is set to IMEI.
18	←		CM SERVICE ACCEPT	
19	→		EMERGENCY SETUP	
20	←		RELEASE COMPLETE	"Cause" = unassigned number.
21	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
22	→		RRC CONNECTION RELEASE COMPLETE	
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.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
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 s.
29	UE			Depending on what has been performed in step 26 the UE is brought back to operation.
30	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
31	←		RRC CONNECTION SETUP	
32	→		RRC CONNECTION SETUP COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
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.
39	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.2.2.5 Test requirement

1)

1.1 At step 24 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.2 At step 25 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.3 At step 9 the UE shall not respond to paging.

1.4 At step 12 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.5 At step 28 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

2) At step 14 the UE shall send a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call"; and at step 17 the UE shall send a CM SERVICE REQUEST message with the "CM service type" set to "Emergency call establishment".

3) At step 33 the UE shall perform location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN.

9.2.3 Authentication rejected by the UE (MAC code failure)

9.2.3.1 Definition

Following a UMTS authentication challenge, the UE may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the UE 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 reject cause 'MAC failure'.

9.2.3.2 Conformance requirement

1) A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'MAC failure'. A UE shall correctly respond to an AUTHENTICATION REQUEST message with correct AUTN parameter by sending AUTHENTICATION RESPONSE message after identification procedure.

2) Upon reception of an IDENTITY REQUEST message, the UE shall identify itself by sending an IDENTITY RESPONSE message including the IMSI to the network.

3) Upon receiving the second AUTHENTICATION REQUEST message from the network, the UE shall stop the timer T3214, if running, and then process the challenge information as normal. Upon successfully validating the network (an AUTHENTICATION REQUEST that contains a valid MAC is received), the UE shall send the AUTHENTICATION RESPONSE message to the network and shall start any retransmission timers (e.g. T3210, T3220 or T3230) , if they were running and stopped when the UE received the first AUTHENTICATION REQUEST message containing an invalid MAC.

Reference(s)

TS 24.008 clauses 4.3.2.5.1 and 4.3.2.6 (c)

9.2.3.3 Test purpose

1) To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'MAC failure'. A UE shall correctly respond to an AUTHENTICATION REQUEST message with correct AUTN parameter by sending AUTHENTICATION RESPONSE message after identification procedure.

2) To verify that upon reception of an IDENTITY REQUEST message the UE identifies itself by sending an IDENTITY RESPONSE message including the IMSI to the network.

3) To verify that upon receiving the second AUTHENTICATION REQUEST message from the network, the UE shall stop the timer T3214, if running, and then process the challenge information as normal. To verify that upon successfully validating the network (an AUTHENTICATION REQUEST that contains a valid MAC is received), the UE sends the AUTHENTICATION RESPONSE message to the network.

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 sent by UE. Upon receipt of the AUTHENTICATION FAILURE message.The SS initiates identification procedure. The UE responded to the SS by sending IDENTITY RESPONSE message. The SS sends AUTHENTICATION REQUEST message with correct AUTN parameter.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
2	→		PAGING RESPONSE	CKSN = CKSN1
3		←	AUTHENTICATION REQUEST	with the AUTN parameter having an invalid MAC code
4	→		AUTHENTICATION FAILURE	with reject cause "MAC failure"
5		←	IDENTITY REQUEST	
6	→		IDENTITY RESPONSE(IMSI)	
7		←	AUTHENTICATION REQUEST	with the AUTN parameter having a correct MAC code
8	→		AUTHENTICATION RESPONSE	"Auth.parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.
9		←	RRC CONNECTION RELEASE	
10	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.2.3.5 Test requirement

1) At step 4 the UE shall send AUTHENTICATION FAILURE message with reject cause set to "MAC failure".

2) At step 6 the UE shall send an IDENTITY RESPONSE message including the IMSI.

3) At step 8 the UE shall send an AUTHENTICATION RESPONSE message.

9.2.4 Authentication rejected by the UE (SQN failure)

9.2.4.1 Definition

Following a UMTS authentication challenge, the UE may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the UE 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 reject cause 'Synch failure' and a re-synchronisation token AUTS provided by the USIM (see TS 33.102).

9.2.4.2 Conformance requirement

1) A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'Synch failure' and parameter (AUTS) provided by the USIM (see TS 33.102).

2) Upon successfully validating the network (a second AUTHENTICATION REQUEST is received which contains a valid SQN) while T3216 is running, the UE shall send the AUTHENTICATION RESPONSE message to the network and shall start any retransmission timers (e.g. T3210, T3220 or T3230), if they were running and stopped when the UE received the first AUTHENTICATION REQUEST message containing an invalid SQN.

Reference(s)

TS 24.008 clause 4.3.2.5.1, 4.3.2.6 (d)

9.2.4.3 Test purpose

1) To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'Synch failure' and parameter (AUTS) provided by the USIM (see TS 33.102).

2) To check that upon successfully validating the network (a second AUTHENTICATION REQUEST is received which contains a valid SQN) while T3216 is running, the UE shall send the AUTHENTICATION RESPONSE message to the network.

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 SS sends an AUTHENTICATION REQUEST having an invalid SQN code (i.e. uses the predefined $AMF_{RESYNCH}$ value to trigger the SQN re-synchronisation procedure, see TS 34.108 clause 8.1.2.2) to the UE. The SS verifies that the UE rejects the authentication.

The SS sends a second AUTHENTICATION REQUEST with a valid SQN code (i.e. uses an AMF value different from $AMF_{RESYNCH}$ value, see TS 34.108 clause 8.1.2.2). The SS checks that the UE accepts the authentication request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
2	→		PAGING RESPONSE	CKSN = CKSN1
3		←	AUTHENTICATION REQUEST	with the AMF information field set to $AMF_{RESYNCH}$ value to trigger SQN re-synchronisation procedure in test USIM, see TS 34.108 clause 8.1.2.2.
4	→		AUTHENTICATION FAILURE	including the AUTS parameter and with the reject cause set to 'Synch failure'
5		←	AUTHENTICATION REQUEST	with the AMF information field set to value different from $AMF_{RESYNCH}$ value to cause test USIM to treat SQN value as valid, see TS 34.108 clause 8.1.2.2.
6	→		AUTHENTICATION RESPONSE	*"Auth. parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.*
7		←	RRC CONNECTION RELEASE	
8	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.2.4.5 Test requirement

1) At step 4 the UE shall reject an authentication and the AUTHENTICATION FAILURE is sent to SS with reject cause "Synch failure".

2) At step 6 the UE shall send an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the XRES calculated by SS.

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 Definition

9.3.1.2 Conformance requirement

1) When requested by the network the UE shall send its IMSI.

2) When requested by the network the UE shall send the TMSI which it was previously allocated.

3) When requested by the network the UE shall send its IMEI as stored in the UE.

4) When requested by the network the UE shall send its IMEISV as stored in the UE.

Reference(s)

TS 24.008 clause 4.3.3.

9.3.1.3 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-security mode, IMEI is requested in security mode.

2) To verify that the UE sends its IMEI, when requested to do so, in non- security mode.

3) To verify that the UE sends its IMEISV, when requested to do so, in non- security mode.

9.3.1.4 Method of test

9.3.1.4.1 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 UE.

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 Radio Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
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 UE.
11		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.3.1.4.2 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 UE.

IMEISV of the UE.

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 Radio Resource Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Terminating Conversational Call.
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 IMEISV.
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.
8	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.3.1.5 Test requirement

1) At step 4 in test 1 and test 2 the UE shall send its IMSI.

2) At step 6 in test 1 the UE shall send the TMSI which it was previously allocated.

3) At step 10 in test 1 the UE shall send its IMEI as stored in the UE.

4) At step 6 in test 2 the UE shall send its IMEISV as stored in the UE.

9.3.2 Handling of IMSI shorter than the maximum length

9.3.2.1 Definition

9.3.2.2 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.

9.3.2.3 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.

9.3.2.4 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 modifies the scrambling code of DL DPCH. 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 Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains IMSI of UE. Establishment cause: Terminating Conversational Call.
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 modifies the scrambling code of DL DPCH for generating lower layer failure.
6a	→		CELL UPDATE	CCCH.
6b	←		RRC CONNECTION RELEASE	CCCH.
6c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
7	→		RRC CONNECTION REQUEST	
8	←		RRC CONNECTION SETUP	
9	→		RRC CONNECTION SETUP COMPLETE	
10	→		CM REESTABLISHMENT REQUEST	"mobile identity" IE contains IMSI of the UE.
10a	←		AUTHENTICATION REQUEST	
10b	→		AUTHENTICATION RESPONSE	
10c	←		SECURITY MODE COMMAND	
10d	→		SECURITY MODE COMPLETE	
11	←		TMSI REALLOCATION COMMAND	"mobile identity" contains a TMSI.
12	→		TMSI REALLOCATION COMPLETE	
13	←		RRC CONNECTION RELEASE	After sending this message, the SS waits for the disconnection of the main signalling link.
14	→		RRC CONNECTION RELEASE COMPLETE	
15	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains TMSI of UE. Establishment cause: Terminating Conversational Call.
16	→		PAGING RESPONSE	"mobile identity" contains the TMSI of the UE.
17	←		AUTHENTICATION REQUEST	
18	→		AUTHENTICATION RESPONSE	
18a	←		SECURITY MODE COMMAND	
18b	→		SECURITY MODE COMPLETE	
19	←		TMSI REALLOCATION COMMAND	"mobile identity" contains a IMSI of UE.
20	→		TMSI REALLOCATION COMPLETE	
21	←		RRC CONNECTION RELEASE	
22	→		RRC CONNECTION RELEASE COMPLETE	
23		UE		If possible (see ICS) the UE is switched off, otherwise the UE has its power source removed.
24	→		RRC CONNECTION REQUEST	If the UE was switched off it performs IMSI detach. "Establishment cause": Detach
25	←		RRC CONNECTION SETUP	
26	→		RRC CONNECTION SETUP COMPLETE	
27	→		IMSI DETACH INDICATION	"mobile identity" contains IMSI of UE.
28	←		RRC CONNECTION RELEASE	
29	→		RRC CONNECTION RELEASE COMPLETE	
30		UE		The UE is switched on or has power restored.
31	→		RRC CONNECTION REQUEST	
32	←		RRC CONNECTION SETUP	
33	→		RRC CONNECTION SETUP COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
34	→		LOCATION UPDATING REQUEST	"mobile identity" contains IMSI of UE.
35	←		LOCATION UPDATING ACCEPT	"mobile identity" contains a TMSI.
36	→		TMSI REALLOCATION COMPLETE	
37	←		RRC CONNECTION RELEASE	
38	→		RRC CONNECTION RELEASE COMPLETE	
39	SS			The SS changes the LAC of the cell.
40	→		RRC CONNECTION REQUEST	Shall be sent within 35s of the LAC being changed.
41	←		RRC CONNECTION SETUP	
42	→		RRC CONNECTION SETUP COMPLETE	
43	→		LOCATION UPDATING REQUEST	"mobile identity" contains TMSI of the UE.
44	←		LOCATION UPDATING ACCEPT	"mobile identity" contains IMSI of the UE.
45	←		RRC CONNECTION RELEASE	
46	→		RRC CONNECTION RELEASE COMPLETE	
47	UE			a mobile originated CM connection is attempted.
48	→		RRC CONNECTION REQUEST	
49	←		RRC CONNECTION SETUP	
50	→		RRC CONNECTION SETUP COMPLETE	
51	→		CM SERVICE REQUEST	"mobile identity" contains IMSI of the UE.
52	←		RRC CONNECTION RELEASE	
53	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.3.2.5 Test requirement

At step 34 the UE shall performs location updating.

At step 2 the UE shall answer to paging with IMSI.

At step 4 the UE shall answer the correct IMSI to the SS by an IDENTITY RESPONSE message.

At step 51 the UE shall attempt CM connection establishment and include the correct IMSI in the CM SERVICE REQUEST message.

At step 10 the UE shall perform call re-establishment with the correct IMSI in the CM RE-ESTABLISHMENT message.

At step 19 the IMSI is sent by the network in a TMSI REALLOCATION COMMAND message, at step 27 the UE shall attempt IMSI detach.

At step 44 the IMSI is sent by the network in a LOCATION UPDATING ACCEPT message, at step 51 the UE shall attempt IMSI detach.

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 Definition

9.4.1.2 Conformance requirement

1.

   1.1 if the network accepts a location updating from the UE and reallocates a TMSI in the LOCATION UPDATING ACCEPT message the UE shall acknowledge the reception of the new TMSI;

   1.2 the UE shall answer to paging with this TMSI and include it in a PAGING RESPONSE message.

2   If the network accepts a location updating from the UE and the LOCATION UPDATING ACCEPT message contains neither TMSI nor IMSI, the UE shall answer to paging when addressed with the last allocated TMSI and include it in the PAGING RESPONSE message.

3.

   3.1 if the network accepts a location updating from the UE by use of a LOCATION UPDATING ACCEPT message containing the IMSI of the UE, the UE shall not answer paging with the last allocated TMSI;

   3.2 the UE shall still answer paging with IMSI.

Reference(s)

TS 24.008 clause 4.4.4.6.

9.4.1.3 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.

9.4.1.4 Method of test

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.

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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		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.
5a	←		SECURITY MODE COMMAND	
5b	→		SECURITY MODE COMPLETE	
6	←		LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI (=TMSI2), LAI = b.
7	→		TMSI REALLOCATION COMPLETE	
8	←		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.
9	→		RRC CONNECTION RELEASE COMPLETE	
10	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains the new TMSI (= TMSI2). Establishment Cause: Terminating Conversational Call.
11	→		PAGING RESPONSE	"Mobile identity" IE contains the new TMSI (= TMSI2).
12	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
13	→		RRC CONNECTION RELEASE COMPLETE	
14		SS		~~The RF level of cell B is lowered until the UE selects cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
15	→		RRC CONNECTION REQUEST	"Establishment cause": Registration
16	←		RRC CONNECTION SETUP	
17	→		RRC CONNECTION SETUP COMPLETE	
18	→		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.
19	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE not included.
20	←		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.
21	→		RRC CONNECTION RELEASE COMPLETE	
22	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.12.2 "Initial UE identity" IE contains the TMSI (= TMSI2). Establishment Cause: Terminating Conversational Call.

Step	Direction		Message	Comments
	UE	**SS**		
23	→		PAGING RESPONSE	"Mobile identity" IE contains the TMSI (=TMSI2).
24	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
25	→		RRC CONNECTION RELEASE COMPLETE	
26		SS		~~The RF level of cell A is lowered until the UE selects cell B.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
27	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
28	←		RRC CONNECTION SETUP	
29	→		RRC CONNECTION SETUP COMPLETE	
30	→		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.
31	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE contains IMSI.
32	←		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.
33	→		RRC CONNECTION RELEASE COMPLETE	
34	←		PAGING TYPE 1	"UE identity" IE contains the old TMSI (= TMSI2). Paging Cause: Terminating Conversational Call.
35		UE		The UE shall ignore this message. This is checked during 5 s.
36	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains the IMSI. Establishment Cause: Terminating Conversational Call.
37	→		PAGING RESPONSE	"Mobile identity" IE contains the IMSI.
38	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
39	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.1.5 Test requirement

At step 7 the UE shall acknowledge the reception of the new TMSI (TMSI2).

At step 11 the UE shall answer to paging with this TMSI (TMSI2).

At step 23 the UE shall answer to paging with the last allocated TMSI (TMSI2).

At step 35 the UE shall not answer paging with the last allocated TMSI, but at step 37 the UE shall still answer paging with IMSI.

9.4.2 Location updating / rejected

9.4.2.1 Location updating / rejected / IMSI invalid

9.4.2.1.1 Definition

9.4.2.1.2 Conformance requirement

1) If the network rejects a location updating from the UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" the 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 UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" 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) If the network rejects a location updating from the UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" the UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.1.3 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 MS" or "Illegal ME".

9.4.2.1.4 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 CK, IK. It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

USIM removal possible while the UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

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 MS" 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**		
1		SS		The following messages are sent and shall be received on cell B. ~~The RF level of cell A is lowered until the UE selects cell B.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING REJECT	"Reject cause" IE is "IMSI unknown in HLR" for k = 1, "Illegal MS" for k = 2, "Illegal ME" for k = 3.
7	~~→~~←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The following messages are sent and shall be received on cell A. ~~The RF levels are then changed again to make the UE reselect the cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
10		UE		The UE performs cell reselection according to procedure as specified in (this however is not checked until step 23). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11		SS		The SS waits at least 7 minutes for a possible periodic updating.
12		UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B.
13	←		PAGING TYPE 1	The UE is paged in cell A. "UE identity" IE contains IMSI. Paging Cause: Terminating Conversational Call.
14		UE		The UE shall ignore this message. This is verified during 3 s.
15	←		PAGING TYPE 1	The UE is paged in cell A. "UE identity" IE contains TMSI. Paging Cause: Terminating Conversational Call.
16		UE		The UE shall ignore this message. This is verified during 3 s.
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 s.
19		UE		If the UE supports speech (see ICS), it is made to perform an emergency call.
20	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
This message is sent in cell A.				
21	←		RRC CONNECTION SETUP	
22	→		RRC CONNECTION SETUP COMPLETE	
23	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment. "Mobile identity": type of identity is set to IMEI.
24	←		CM SERVICE ACCEPT	
25	→		EMERGENCY SETUP	
26	←		RELEASE COMPLETE	"Cause" = unassigned number.
27	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
28	→		RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
29	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
30	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
31	UE			Depending on what has been performed in step 31 the UE is brought back to operation.
32	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
33	←		RRC CONNECTION SETUP	
34	→		RRC CONNECTION SETUP COMPLETE	
35	→		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).
36	←		AUTHENTICATION REQUEST	"CKSN" = CKSN1.
37	→		AUTHENTICATION RESPONSE	
38	←		LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.
39	→		TMSI REALLOCATION COMPLETE	
40	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
41	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.2.1.5 Test requirement

1) 1.1 At step 10 the UE shall not perform normal location updating.

   1.2 At step 12 the UE shall not perform periodic location updating.

   1.3 At step 14 the UE shall not respond to paging with IMSI.

   1.4 At step 16 the UE shall not respond to paging with TMSI.

   1.5 At step 18 the UE shall reject a MO CM connection.

   1.6 At step 30 the UE shall not initiate an RRC connection establishment on cell A or on cell B.

2) At step 20 the UE shall accept a request for an emergency call with the establishment cause set to "Emergency call".

3) At step 35 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the LAI "deleted LAI".

9.4.2.2 Location updating / rejected / PLMN not allowed

9.4.2.2.1 Definition

9.4.2.2.2 Conformance requirement

1) If the network reject a location updating from the UE with the cause "PLMN not allowed" the 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 UE with the cause "PLMN not allowed" the 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 UE with the cause "PLMN not allowed" and if after that the PLMN from which this rejection was received, is manually selected, the UE shall perform a normal location updating procedure.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.2.3 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".

9.4.2.2.4 Method of test

9.4.2.2.4.1 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)

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.

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**		
1 2	UE SS			The following messages are sent and shall be received on cell B. The UE is switched off (or power is removed). ~~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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "Suitable neighbor cell". Set the cell type of cell C to the "non-suitable cell". (NOTE)
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	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
5	←		RRC CONNECTION SETUP	
6	→		RRC CONNECTION SETUP COMPLETE	
7	→		LOCATION UPDATING REQUEST	
8	←		LOCATION UPDATING REJECT	"Reject cause" = PLMN not allowed.
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	→		RRC CONNECTION RELEASE COMPLETE	
11 12	SS UE			The SS waits for a possible periodic updating for 7 minutes. The UE shall not initiate an RRC connection establishment on cell A or on cell B.
13 14	UE UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed. The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
15 16	UE UE			Depending on what has been performed in step 13 the UE is brought back to operation. The UE is not made to select PLMN 2. The UE shall not initiate an RRC connection establishment. This is checked during 3 s.
17	SS			The following message are sent and shall be received on cell A. ~~The RF level of cell B is lowered to make the UE reselect cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbor cell". (NOTE)
18	UE			No access to the network shall be registered by the SS within one minute.
19	UE			If the UE supports speech (see ICS) it is made to perform an emergency.
20	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency Call.
21	←		RRC CONNECTION SETUP	
22	→		RRC CONNECTION SETUP COMPLETE	
23	→		CM SERVICE REQUEST	"CM service type" = Emergency call establishment.

Step	Direction		Message	Comments
	UE	SS		
24	←		CM SERVICE ACCEPT	
25	→		EMERGENCY SETUP	
26	←		RELEASE COMPLETE	Cause IE: "unassigned number".
27	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
28	→		RRC CONNECTION RELEASE COMPLETE	
29	UE			A MO CM connection is attempted.
30	UE			The UE shall not initiate an RRC connection establishment. This is checked during 3 s.
31	UE			The following messages are sent and shall be received on cell C. The UE is switched off.
32	SS			~~The SS activates cell C and deactivates cells A and B.~~ Set the cell type of cell C to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
33	UE			The UE is switched on. If necessary the UE is placed into the automatic mode.
34	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
35	←		RRC CONNECTION SETUP	
36	→		RRC CONNECTION SETUP COMPLETE	
37	→		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.
38	←		LOCATION UPDATING ACCEPT	"Mobile identity" = TMSI.
39	→		TMSI REALLOCATION COMPLETE	
40	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
41	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell", "Suitable neighbor cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents:

None.

9.4.2.2.4.2 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)

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.

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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "Suitable neighbor cell". Set the cell type of cell C to the "non-suitable cell". (NOTE)
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": Registration.
5	←		RRC CONNECTION SETUP	
6	→		RRC CONNECTION SETUP COMPLETE	
7	→		LOCATION UPDATING REQUEST	
8	←		LOCATION UPDATING REJECT	"Reject cause" = PLMN not allowed.
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	→		RRC CONNECTION RELEASE COMPLETE	
11	UE			The UE is made to search for PLMNs and the PLMN indicated by the SS is manually selected.
12	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
13	←		RRC CONNECTION SETUP	
14	→		RRC CONNECTION SETUP COMPLETE	
15	→		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.
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
17	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell C.				
18	UE			The UE is switched off.
19		SS		~~The SS activates cell C and deactivates cells A and B.~~Set the cell type of cell C to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
20	UE			The UE is switched on. If necessary, the UE is put into the automatic mode.
21	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
22	←		RRC CONNECTION SETUP	
23	→		RRC CONNECTION SETUP COMPLETE	
24	→		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.
25	←		LOCATION UPDATING ACCEPT	"Mobile identity" = TMSI.
26	→		TMSI REALLOCATION COMPLETE	
27	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
28	→		RRC CONNECTION RELEASE COMPLETE	
NOTE: The definitions for "Serving cell", "Suitable neighbor cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".				

Specific message contents

None.

9.4.2.2.5 Test requirement

1) 1.1 At step 12 in test 1 the UE shall not perform periodic updating.

1.2 At step 14 in test 1 the UE shall not initiate an RRC connection establishment (IMSI detach).

1.3 At step 16 in test 1 the UE shall not initiate an RRC connection establishment (IMSI attach).

1.4 At step 16 in test 1 the UE shall not perform normal location updating.

1.5 At step 2930 in test 1 the UE shall reject a MO CM connection.

2) 2.1 At step 37 in test 1 the UE shall perform normal location updating.

2.2 At step 20 in test 1 the UE shall accept a request for an emergency call with the establishment cause set to "Emergency call".

3) At step 11 in test 2 the UE is made to search for PLMNs and the PLMN indicated by the SS is manually selected, and at step 15 the UE shall perform a normal location updating procedure.

9.4.2.3 Location updating / rejected / location area not allowed

9.4.2.3.1 Definition

9.4.2.3.2 Conformance requirement

1) If the network rejects a location updating from the UE with the cause "Location Area not allowed" the 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 UE with the cause "Location Area not allowed" the 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.

9.4.2.3.3 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).

9.4.2.3.4 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 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.

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		
1		SS		The following messages are sent and shall be received on cell B. ~~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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING REJECT	"Reject cause" = "Location Area not allowed".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the mainsignalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		SS waits for a possible location updating for 7 minutes.
10	UE			The UE shall not initiate an RRC-connection establishment either on cell A or cell B.
11	←		PAGING TYPE 1	The UE is paged in cell B. "UE identity" = TMSI. Paging Cause: Terminating Conversational Call.
12	UE			The UE shall ignore this message. This is checked during 3 s.
13	UE			A MO CM connection is attempted.
14	UE			The UE shall not initiate an RRC connection establishment on cell A or cell B. This is checked during 3 s.
15	UE			If the UE supports speech (see ICS), it is made to perform an emergency call.
16	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
17	←		RRC CONNECTION SETUP	
18	→		RRC CONNECTION SETUP COMPLETE	
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.
24	→		RRC CONNECTION RELEASE COMPLETE	
25	UE			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 (check for IMSI detach) This is checked during 3 s.
27	UE			Depending on what has been performed in step 25 the UE is brought back to operation.
28	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
29	←		RRC CONNECTION SETUP	
30	→		RRC CONNECTION SETUP COMPLETE	
31	→		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)
32	←		LOCATION UPDATING REJECT	"Reject cause" = "Location Area not allowed".
33	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
34	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.				

Step	Direction		Message	Comments
	UE	SS		
35		SS		~~The RF level of cell B is lowered until the UE selects cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
36	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
37	←		RRC CONNECTION SETUP	
38	→		RRC CONNECTION SETUP COMPLETE	
39	→		LOCATION UPDATING REQUEST	
40	←		AUTHENTICATION REQUEST	
41	→		AUTHENTICATION RESPONSE	
42	←		LOCATION UPDATING ACCEPT	Mobile identity = TMSI.
43	→		TMSI REALLOCATION COMPLETE	
44	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
45	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.2.3.5 Test requirement

1) 1.1 At step 10 the UE shall not perform periodic updating.

   1.2 At step 12 the UE shall not respond to paging with TMSI.

   1.3 At step 14 the UE shall not initiate an RRC connection establishment.

   1.4 At step 26 the UE shall not initiate an RRC connection establishment (IMSI detach).

2) 2.1 At step 39 the UE shall perform normal location updating.

   2.2 At step 16 the UE shall accept a request for an emergency call.

   2.3 At step 31 the UE shall send a LOCATION UPDATING REQUEST message with the LAI "deleted LAI".

9.4.2.4 Location updating / rejected / roaming not allowed in this location area

9.4.2.4.1 Definition

9.4.2.4.2 Conformance requirement

1) If the network rejects a location updating from the UE with the cause "Roaming not allowed in this location area" the 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 UE with the cause "Roaming not allowed in this location area" the 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 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 USIM is removed.

4) ~~The UE shall be capable of storing at least 6 entries in the list of "Forbidden location areas for roaming".~~ The UE shall contain a list of "forbidden location areas for roaming". The location area identification received on the BCCH that triggered the location updating request shall be added to the suitable list whenever a LOCATION UPDATE REJECT message is received with the cause "Roaming not allowed in this location area". The lists shall accommodate each 10 or more location area identifications.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.4.3 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 USIM is removed the list of "forbidden location areas for roaming" is cleared.

9.4.2.4.4 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 CK, IK. It is "idle updated" on cell B;

- procedure 4: The UE has valid TMSI, CKSN and 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 USIM or switching the UE OFF then ON or removing the UE power source depending on ICS).

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.

Method to clear the list of location areas for roaming periodically.

The UE is automatically in automatic mode after switch on Yes/No.

Test Procedures

Procedure 1:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this location 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 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 location 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 location 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 location 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 USIM removal is possible while UE is powered:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this location area". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic location updating procedure. The 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**		
1	SS			The following messages are sent and shall be received on cell A. ~~The RF level of cell B is lowered until cell B is no more suitable and the UE selects cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	Location Updating Type = normal.
6	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9	SS			The SS waits at least 7 minutes for a possible location updating.
10	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11	UE			If possible (see ICS) the UE is switched off. Otherwise if possible the power is removed.
12	UE			Depending on what has been performed in step 11 the UE is brought back to operation and placed in an automatic mode.
13	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
14	←		RRC CONNECTION SETUP	
15	→		RRC CONNECTION SETUP COMPLETE	
16	→		LOCATION UPDATING REQUEST	Location Updating Type = normal.
17	←		LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.
18	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
19	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Procedure 2

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A. ~~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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message is sent on cell A.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9	→		RRC CONNECTION REQUEST	The following messages are sent and shall be received on cell B. "Establishment cause": Registration.
10	←		RRC CONNECTION SETUP	
11	→		RRC CONNECTION SETUP COMPLETE	
12	→		LOCATION UPDATING REQUEST	
13	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
14	~~→~~←		RRC CONNECTION RELEASE ~~COMPLETE~~	After the sending of this message, the SS waits for the disconnection of the main signalling link.
15	←~~→~~		RRC CONNECTION RELEASE COMPLIETE	~~After the sending of this message, the SS waits for the disconnection of the main signalling link.~~
16		SS		The SS waits for a possible location updating procedure on both cells A and B for 2 minutes.
17		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 15.
18	←		PAGING TYPE 1	"UE identity" = TMSI. This message is sent on cell A and on cell B. Paging Cause: Terminating Conversational Call.
19		UE		The UE shall not initiate an RRC connection on cell A or on cell B. This is checked during 3 s.
20		UE		A MO CM connection is attempted.
21		UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
	The following messages are sent and shall be received on cell A. Steps 22 to 31 are performed if the UE supports speech.			
22		UE		An emergency call is attempted.
23	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency Call.
24	←		RRC CONNECTION SETUP	
25	→		RRC CONNECTION SETUP COMPLETE	
26	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment.
27	←		CM SERVICE ACCEPT	
28	→		EMERGENCY SETUP	
29	←		RELEASE COMPLETE	"Cause" = unassigned number.
30	~~→~~←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
31	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Procedure 3

Step	Direction UE	Direction SS	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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbor cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell B.
9	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
10	←		RRC CONNECTION SETUP	
11	→		RRC CONNECTION SETUP COMPLETE	
12	→		LOCATION UPDATING REQUEST	
13	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
14	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
15	→		RRC CONNECTION RELEASE COMPLETE	
16		SS		Change_LAI (A) within 5 s after step 13.
The following messages are sent and shall be received on cell A.
17	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
18	←		RRC CONNECTION SETUP	
19	→		RRC CONNECTION SETUP COMPLETE	
20	→		LOCATION UPDATING REQUEST	
21	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
22	~~→~~←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
23	→		RRC CONNECTION RELEASE COMPLETE	
24		SS		Change_LAI (B) within 5 s after step 21.
The following messages are sent and shall be received on cell B.
25	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
26	←		RRC CONNECTION SETUP	
27	→		RRC CONNECTION SETUP COMPLETE	
28	→		LOCATION UPDATING REQUEST	
29	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
30	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Step	Direction UE	Direction SS	Message	Comments
31	→		RRC CONNECTION RELEASE COMPLETE	
32		SS		Change_LAI (A) within 5 s after step 29.
The following messages are sent and shall be received on cell A.				
33	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
34	←		RRC CONNECTION SETUP	
35	→		RRC CONNECTION SETUP COMPLETE	
36	→		LOCATION UPDATING REQUEST	
37	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
38	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
39	→		RRC CONNECTION RELEASE COMPLETE	
40		SS		Change_LAI (B) within 5 s after step 37.
The following messages are sent and shall be received on cell B.				
41	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
42	←		RRC CONNECTION SETUP	
43	→		RRC CONNECTION SETUP COMPLETE	
44	→		LOCATION UPDATING REQUEST	
45	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
46	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
47	→		RRC CONNECTION RELEASE COMPLETE	
48		SS		The SS waits for a possible location updating procedure on both cells A and B for 7 minutes.
49		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 47.

NOTE: The definitions for "Serving cell" and "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

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": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	Location Updating Type = periodic.
6	←		LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The location area identity of cell C shall be changed to that of a location area in the Home PLMN.
10		SS		The SS waits for a periodic location updating procedure on cell A for 7 minutes.
11	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message is sent on cell A within 7 minutes after the end of step 8.
12	←		RRC CONNECTION SETUP	
13	→		RRC CONNECTION SETUP COMPLETE	
14	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
15	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
17	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell C.				
18	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
19	←		RRC CONNECTION SETUP	
20	→		RRC CONNECTION SETUP COMPLETE	
21	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
22	←		LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.
23	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
24	→		RRC CONNECTION RELEASE COMPLETE	

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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The SS waits at least 7 minutes for a possible location updating.
10	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11	UE			The USIM is removed.
12	UE			The USIM is inserted into the ME.
13	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
14	←		RRC CONNECTION SETUP	
15	→		RRC CONNECTION SETUP COMPLETE	
16	→		LOCATION UPDATING REQUEST	Location Updating Type = normal.
17	←		LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.
18	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
19	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.2.4.5 Test requirement

1) 1.1 At step 10 in Procedure 1 the UE shall not perform periodic updating.

   1.2 At step 19 in Procedure 2 the UE shall not respond to paging with TMSI.

   1.3 At step 21 in procedure 2 the UE shall not initiate an RRC connection establishment.

   1.4 After step 13 in Procedure 5 the UE shall perform location updating (at step 16; not perform IMSI detach).

2) 2.1 After step 9 in Procedure 2 the UE perform normal location updating (at step 12).

   2.2 At step 23 in Procedure 2 the UE shall initiate a RRC CONNECTION REQUEST message with the establishment cause set to "Emergency call";

   2.3 After step 14 in Procedure 4 the UE shall attempt to location updating with location updating type "periodic" (at step 21: periodically search for its HPLMN).

3) After step 12 in Procedure 5 the UE shall perform location updating (at step 16) when the USIM is removed.

4) At step 49 in Procedure 3 the UE shall not attempt to begin a location updating procedure.

9.4.2.5 Location updating / rejected / No Suitable Cells In Location Area

9.4.2.5.1 Definition

9.4.2.5.2 Conformance requirement

1) If the network rejects a location updating from the UE with the cause " No Suitable Cells In Location Area " the UE shall:

1.1 perform normal location updating at a suitable cell in another location area in the same PLMN;

1.2 delete the stored CKSN, LAI and TMSI.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.5.3 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "No Suitable Cells In Location Area".

9.4.2.5.4 Method of test

Initial conditions

- System Simulator:

    - two cells: A and B, belonging to different location areas a and b and belonging to PLMN1;

    - one cell: C, belonging to PLMN2;

    - IMSI attach/detach is allowed in cells A, B and C;

- 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.

Test Procedure

The SS rejects a normal location updating with the cause value "No Suitable Cells In Location Area". The RRC CONNECTION is released. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN, and shall perform normal location updating procedure in that cell

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, B and C is enough which the UE can select every cells.~~ ~~The RF level of cell B is stronger than those of cell A and C.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "Suitable neighbor cell". Set the cell type of cell C to the "Suitable neighbor cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "LAI" = a, "mobile station classmark 1" as given by the ICS and "Mobile Identity" = TMSI1.
6	←		LOCATION UPDATING REJECT	"Reject cause" = "No Suitable Cells In Location Area".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.				
9	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
10	←		RRC CONNECTION SETUP	
11	→		RRC CONNECTION SETUP COMPLETE	
12	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI, "mobile station classmark 1" as given by the ICS, "Mobile Identity" = IMSI.
13	←		AUTHENTICATION REQUEST	"CKSN" = CKSN2
14	→		AUTHENTICATION RESPONSE	
15	←		SECURITY MODE COMMAND	
16	→		SECURITY MODE COMPLETE	
17	←		LOCATION UPDATING ACCEPT	Mobile identity = TMSI, LAI = a.
18	→		TMSI REALLOCATION COMPLETE	
19	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
20	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.2.5.5 Test requirement

At step 12 the UE shall perform normal location updating with CKSN IE set to "no key available", LAI IE set to "deleted LAI" and Mobile Identity IE set to its IMSI.

9.4.3 Location updating / abnormal cases

9.4.3.1 Void

9.4.3.2 Location updating / abnormal cases / attempt counter less or equal to 4, LAI different

9.4.3.2.1 Definition

9.4.3.2.2 Conformance requirement

1) When a failure such as cases d), f), g) and h) 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 UE shall resend its 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 a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the 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 UE, if it supports speech, shall send a 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 message.

4) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the 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 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), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the UE shall answer to paging with IMSI and shall send a 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), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the 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.

9.4.3.2.3 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".

9.4.3.2.4 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 USIM and is noted "initial CKSN". A TMSI is allocated.

Related ICS/IXIT statements

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

Test Procedure

The UE is made to perform a normal location updating procedure. Five 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);

- RR connection establishment failure (case h).

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 state and ATTEMPTING TO UPDATE substate 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		SS		~~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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		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.
6	←		LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		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 is released.
8	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
9	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		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.
14		SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.
15			(void)	
15a	→		CELL UPDATE	CCCH.
15b	←		RRC CONNECTION RELEASE	CCCH.
15c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
15d		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 is released.
16	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
17	←		RRC CONNECTION SETUP	
18	→		RRC CONNECTION SETUP COMPLETE	
19	→		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.
20	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
21	→		RRC CONNECTION RELEASE COMPLETE	
22		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 is released.
23	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
24	←		RRC CONNECTION SETUP	
25	→		RRC CONNECTION SETUP COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
26	→		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.
27	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
28	→		AUTHENTICATION RESPONSE	
28a	←		SECURITY MODE COMMAND	
28b	→		SECURITY MODE COMPLETE	
29	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
30	→		TMSI REALLOCATION COMPLETE	
31	←		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.
32	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.				
33		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.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
34	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
35	←		RRC CONNECTION SETUP	
36	→		RRC CONNECTION SETUP COMPLETE	
37	→		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.
38		SS		performs step 6 with reject cause #100 and step 7.
38a	UE			performs step8.
39	←		PAGING TYPE 1	UE identity = old TMSI of the UE. This message is sent continuously to the UE during 8 s. Paging Cause: Terminating Conversational Call.
40		SS		The SS checks that there is no answer from the UE during 12 s.
41		SS		If during steps 39 and 40 the UE attempts to perform a location updating procedure the SS will perform step 38 and then continue the procedure.
42	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) mobile switch off is performed. Otherwise the power is removed.
43	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during 30 s.
44	UE			Depending on what has been performed in step 42 the UE is brought back to operation.
45	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
46	←		RRC CONNECTION SETUP	
47	→		RRC CONNECTION SETUP COMPLETE	
48	→		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.
49	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
50	→		AUTHENTICATION RESPONSE	
50a	←		SECURITY MODE COMMAND	
50b	→		SECURITY MODE COMPLETE	
51	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
52	→		TMSI REALLOCATION COMPLETE	
53	←		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.

Step	Direction		Message	Comments
	UE	**SS**		
54	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell B.				
55	SS			~~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.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
56	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
57	←		RRC CONNECTION SETUP	
58	→		RRC CONNECTION SETUP COMPLETE	
59	→		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.
60	←		AUTHENTICATION REQUEST	
61	→		AUTHENTICATION RESPONSE	Steps 60 and 61 are performed N times. N shall be chosen in such a way that T3210 expires.
62	UE			The UE shall cease transmission 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.
63	UE			If the UE supports speech it is made to perform an emergency call.
64	→		RRC CONNECTION REQUEST	Establishment cause: Emergency call.
65	←		RRC CONNECTION SETUP	
66	→		RRC CONNECTION SETUP COMPLETE	
67	→		CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.
68	←		CM SERVICE ACCEPT	
69	→		EMERGENCY SETUP	
70	←		RELEASE COMPLETE	Cause = unassigned number.
71	←		RRC CONNECTION RELEASE	
72	→		RRC CONNECTION RELEASE COMPLETE	
72a	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 is released.
73	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
74	←		RRC CONNECTION SETUP	
75	→		RRC CONNECTION SETUP COMPLETE	
76	→		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.
77	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
78	→		AUTHENTICATION RESPONSE	
78a	←		SECURITY MODE COMMAND	
78b	→		SECURITY MODE COMPLETE	
79	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
80	→		TMSI REALLOCATION COMPLETE	
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 B.
82	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.				

Step	Direction		Message	Comments
	UE	SS		
83		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.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
84	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
85	←		RRC CONNECTION SETUP	
86	→		RRC CONNECTION SETUP COMPLETE	
87	→		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.
88		SS		performs step 14.
88a			(void)	
88b	→		CELL UPDATE	CCCH.
88c	←		RRC CONNECTION RELEASE	CCCH.
88d		SS		performs step 15c.
89	UE			A MO CM connection is attempted before T3211 expiry.
90	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
91	←		RRC CONNECTION SETUP	
92	→		RRC CONNECTION SETUP COMPLETE	
93	→		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.
94	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
95	→		TMSI REALLOCATION COMPLETE	
96	←		RRC CONNECTION RELEASE	Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.
97	→		RRC CONNECTION RELEASE COMPLETE	
97a		SS		Wait 10 s to decide whether to go directly to step 104.
98	→		RRC CONNECTION REQUEST	Establishment cause: Not checked.
99	←		RRC CONNECTION SETUP	
100	→		RRC CONNECTION SETUP COMPLETE	
101	→		CM SERVICE REQUEST	CKSN = no key available, Mobile identity = TMSI.
102	←		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.
103	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell B.				
104		SS		~~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.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
105	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
106	←		RRC CONNECTION SETUP	
107	→		RRC CONNECTION SETUP COMPLETE	
108	→		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.
109		SS		performs step 14.
109a			(void)	
109b	→		CELL UPDATE	CCCH.
109c	←		RRC CONNECTION RELEASE	CCCH.
109d		SS		performs step 15c.
The following messages are sent and shall be received on cell A.				

Step	Direction		Message	Comments
	UE	SS		
110		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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
110a	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
110b	←		RRC CONNECTION SETUP	
110c	→		RRC CONNECTION SETUP COMPLETE	
110d	→		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.
110e		SS		performs step 14.
110f	→		CELL UPDATE	CCCH.
110g	←		RRC CONNECTION RELEASE	CCCH.
110h		SS		performs step 15c.
111	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" = IMSI. Establishment Cause: Terminating Conversation Call.
112	→		PAGING RESPONSE	"Mobile identity" = IMSI, CKSN = no key available.
113	←		RRC CONNECTION RELEASE	
114	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.3.2.5   Test requirement

1) At step 13 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key available" and the Location Updating Type IE set to "normal location updating".

2)

   2.1 At step 40 the UE shall not answer to paging with the previously allocated TMSI.

   2.2 At step 43 the UE shall not perform the IMSI detach procedure.

3) At step 67 the UE shall send a 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.

   At step 69 the UE shall send an EMERGENCY SETUP message.

4) At step 93 the UE shall send a 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) At step 112 the UE shall send a PAGING RESPONSE message with CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI.

6) At step 110d the UE shall perform a normal location updating procedure.

9.4.3.3 Location updating / abnormal cases / attempt counter equal to 4

9.4.3.3.1 Definition

9.4.3.3.2 Conformance requirement

1) When four failures such as cases d) to h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE shall:

   1.1 perform location updating after T3212 expiry by sending a LOCATION UPATING 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";

   1.2 if the T3212 initiated location updating was unsuccessful, then after T3211 expiry the UE shall send a 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) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE shall not perform the IMSI detach procedure, when switchd off.

3) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE, if it supports speech, shall be able to perform an emergency call i.e. the UE is able to send a 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 message.

4) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:

   4.1 the 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 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";

   4.2 after a location updating triggered by a request from the CM layer which was .unsuccessful, after T3211 expiry the UE shall send a 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 four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:

   5.1 the UE shall perform a normal location updating procedure if it enters a new cell;

   5.2 if this location updating is unsuccessful, after T3211 expiry the UE shall send a 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.

9.4.3.3.3 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 state and ATTEMPTING TO UPDATE substate 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.

9.4.3.3.4 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;

    - 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

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

Test Procedure

The UE is made to perform a normal location updating. The SS triggers a failure in this procedure by modifying scrambing code of DL DPCH. After T3211 expiry the UE will try again the location updating procedure. The SS triggers again a failure by modifying it. 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		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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		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.
6	←		LOCATION UPDATING REJECT	IE Reject cause is set to #22 in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
7	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		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 is released.
10	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
11	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		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.
14		SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.
15			(void)	
15a	→		CELL UPDATE	CCCH.
15b	←		RRC CONNECTION RELEASE	CCCH.
15c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
15d		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 is released.
16	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
17	←		RRC CONNECTION SETUP	
18	→		RRC CONNECTION SETUP COMPLETE	
19	→		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.
20	←		AUTHENTICATION REQUEST	
21	→		AUTHENTICATION RESPONSE	Steps 20 and 21 are performed N times. N shall be chosen in such a way that T3210 expires.
22		UE		The UE shall cease transmission 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.
23	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
24	←		RRC CONNECTION SETUP	
25	→		RRC CONNECTION SETUP COMPLETE	

Step	Direction UE | SS	Message	Comments
26	→	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.
27	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
28	→	RRC CONNECTION RELEASE COMPLETE	
29	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 is released.
30	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
31	←	RRC CONNECTION SETUP	
32	→	RRC CONNECTION SETUP COMPLETE	
33	→	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.
34	←	LOCATION UPDATING REJECT	IE Reject cause = #17 "network failure".
35	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
36	→	RRC CONNECTION RELEASE COMPLETE	
37	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 is released.
38	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
39	←	RRC CONNECTION SETUP	
40	→	RRC CONNECTION SETUP COMPLETE	
41	→	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.
42	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
43	→	AUTHENTICATION RESPONSE	
43a	←	SECURITY MODE COMMAND	
43b	→	SECURITY MODE COMPLETE	
44	←	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
45	→	TMSI REALLOCATION COMPLETE	
46	←	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.
47	→	RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell B.			
48	SS		~~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.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
49	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
50	←	RRC CONNECTION SETUP	
51	→	RRC CONNECTION SETUP COMPLETE	
52	→	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.

Step	Direction UE | SS	Message	Comments
53	←	LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
54	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
55	→	RRC CONNECTION RELEASE COMPLETE	
56	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 is released.
57	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
58	←	RRC CONNECTION SETUP	
59	→	RRC CONNECTION SETUP COMPLETE	
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	SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.
61a		(void)	
61b	→	CELL UPDATE	CCCH.
61c	←	RRC CONNECTION RELEASE	CCCH.
61d	SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
61e	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 is released.
62	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
63	←	RRC CONNECTION SETUP	
64	→	RRC CONNECTION SETUP COMPLETE	
65	→	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.
66	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
67	→	RRC CONNECTION RELEASE COMPLETE	
68	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 is released.
69	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
70	←	RRC CONNECTION SETUP	
71	→	RRC CONNECTION SETUP COMPLETE	
72	→	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.
73	SS		performs step 53 and 54.
74	UE		performs step 55. If the UE supports speech, it is made to perform an emergency call.
75	→	RRC CONNECTION REQUEST	Establishment cause: Emergency call.
76	←	RRC CONNECTION SETUP	
77	→	RRC CONNECTION SETUP COMPLETE	
78	→	CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.
79	←	CM SERVICE ACCEPT	
80	→	EMERGENCY SETUP	
81	←	RELEASE COMPLETE	Cause = unassigned number.

Step	Direction UE | SS	Message	Comments
82	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
83	→	RRC CONNECTION RELEASE COMPLETE	
84	UE		If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
85	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 30 s.
86	UE		Depending on what has been performed in step 84 the UE is brought back to operation.
87	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
88	←	RRC CONNECTION SETUP	
89	→	RRC CONNECTION SETUP COMPLETE	
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 Identity = IMSI.
91	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
92	→	AUTHENTICATION RESPONSE	
92a	←	SECURITY MODE COMMAND	
92b	→	SECURITY MODE COMPLETE	
93	←	LOCATION UPDATING ACCEPT	IE mobile Identity = new 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 B.
96	→	RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.			
97	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.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
98	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
99	←	RRC CONNECTION SETUP	
100	→	RRC CONNECTION SETUP COMPLETE	
101	→	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.
102	←	LOCATION UPDATING REJECT	IE Reject cause is set to #38 in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
103	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
104	→	RRC CONNECTION RELEASE COMPLETE	
105	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 is released.
106	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
107	←	RRC CONNECTION SETUP	
108	→	RRC CONNECTION SETUP COMPLETE	
109	→	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.
110	SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.

Step	Direction UE | SS	Message	Comments
111		(void)	
111a	→	CELL UPDATE	CCCH.
111b	←	RRC CONNECTION RELEASE	CCCH.
111c	SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
111d	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 is released.
112	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
113	←	RRC CONNECTION SETUP	
114	→	RRC CONNECTION SETUP COMPLETE	
115	→	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.
116	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
117	→	RRC CONNECTION RELEASE COMPLETE	
118	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 is released.
119	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
120	←	RRC CONNECTION SETUP	
121	→	RRC CONNECTION SETUP COMPLETE	
122	→	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.
123		(void)	
123a	UE		performs step 61a.
123b	→	CELL UPDATE	CCCH.
123c	←	RRC CONNECTION RELEASE	CCCH.
123d	SS		performs step 61d.
124	UE		A MO CM connection is attempted before T3212 expiry.
125	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
126	←	RRC CONNECTION SETUP	
127	→	RRC CONNECTION SETUP COMPLETE	
128	→	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.
129		(void)	
129a	UE		performs step 61a.
129b	→	CELL UPDATE	CCCH.
129c	←	RRC CONNECTION RELEASE	CCCH.
129d	SS		performs step 61d.
130	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 is released.
131	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
132	←	RRC CONNECTION SETUP	
133	→	RRC CONNECTION SETUP COMPLETE	
134	→	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.
135	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
136	→	AUTHENTICATION RESPONSE	
136a	←	SECURITY MODE COMMAND	
136b	→	SECURITY MODE COMPLETE	

Step	Direction UE | SS	Message	Comments
137	←	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
138	→	TMSI REALLOCATION COMPLETE	
139	←	RRC CONNECTION RELEASE	
140	→	RRC CONNECTION RELEASE COMPLETE	UE is now "idle, updated" in cell A. The UE may or may not have memorised the request for CM connection. The steps 141 to 147 are therefore optional for the UE. The SS waits 10 s whether to decide to go directly to step 148.
141	→	RRC CONNECTION REQUEST	
142	←	RRC CONNECTION SETUP	
143	→	RRC CONNECTION SETUP COMPLETE	
144	→	CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
145	←	CM SERVICE REJECT	cause #17 (network failure).
146	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
147	→	RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell B.			
148	SS		~~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.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
149	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
150	←	RRC CONNECTION SETUP	
151	→	RRC CONNECTION SETUP COMPLETE	
152	→	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.
153	←	LOCATION UPDATING REJECT	IE Reject cause is set to #38 in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
154	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link
155	→	RRC CONNECTION RELEASE COMPLETE	
156	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 is released.
157	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
158	←	RRC CONNECTION SETUP	
159	→	RRC CONNECTION SETUP COMPLETE	
160	→	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.
161	SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.
162		(void)	
162a	→	CELL UPDATE	CCCH.
162b	←	RRC CONNECTION RELEASE	CCCH.
162c	SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
162d	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 is released.
163	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
164	←	RRC CONNECTION SETUP	
165	→	RRC CONNECTION SETUP COMPLETE	

Step	Direction UE | SS	Message	Comments
166	→	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.
167	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
168	→	RRC CONNECTION RELEASE COMPLETE	
169	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 is released.
170	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
171	←	RRC CONNECTION SETUP	
172	→	RRC CONNECTION SETUP COMPLETE	
173	→	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.
174	←	LOCATION UPDATING REJECT	IE Reject cause = "retry upon entry into a new cell".
174a	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
174b	→	RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.			
175	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.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
176	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
177	←	RRC CONNECTION SETUP	
178	→	RRC CONNECTION SETUP COMPLETE	
179	→	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.
180	SS		performs the step 61.
181		(void)	
181a	→	CELL UPDATE	CCCH.
181b	←	RRC CONNECTION RELEASE	CCCH.
181c	SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
181d	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 is released.
182	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
183	←	RRC CONNECTION SETUP	
184	→	RRC CONNECTION SETUP COMPLETE	
185	→	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.
186	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
187	→	AUTHENTICATION RESPONSE	
187a	←	SECURITY MODE COMMAND	
187b	→	SECURITY MODE COMPLETE	
188	←	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
189	→	TMSI REALLOCATION COMPLETE	

Step	Direction UE | SS	Message	Comments
190	←	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.
191	→	RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.3.3.5 Test requirement

1) 1.1 At step 33 the UE shall perform location updating procedure.

   1.2 At step 41 the UE shall send a 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) At step 85 the UE shall not perform the IMSI detach procedure.

3) At step78 the UE shall send a 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.

   At step 80 the UE shall send an EMERGENCY SETUP message.

4)

   4.1 At step128 the UE shall send a 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";

   4.2 At step 134 the UE shall send a 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)

   5.1 At step 179 the UE shall perform a normal location updating procedure if it enters a new cell;

   5.2 At step 185 the UE shall send a 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".

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 Definition

9.4.3.4.2 Conformance requirement

1) When a failure such as cases d), f), g) and h) 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 UE shall be able to establish an MM connection i.e. send a RRC CONNECTION REQUEST message and then a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;

   1.2 then the UE shall not attempt a location updating procedure.

2) When a failure such as cases d), f), g) and h) 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 UE shall be able to establish an MM connection i.e. send a RRC CONNECTION REQUEST message and then a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;

2.2 then the UE shall not attempt a location updating procedure.

3) When a failure such as cases d), f), g) and h) 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 UE shall send, after T3211 expiry, a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "periodic updating".

3.1 When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) 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 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".

4) When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) 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), g) and h) 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 UE shall send, after T3211 expiry, a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating type set to "IMSI attach".

5.1 When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) 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 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 UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) 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.

9.4.3.4.3 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.

9.4.3.4.4 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

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

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 state and ATTEMPTING TO UPDATE substate 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 s.
2	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		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.
6		SS		performs step 6, of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
6a	UE			performs step 8 of 9.4.3.2.
7	UE			A MO CM connection is attempted before T3211 expiry.
8	→		RRC CONNECTION REQUEST	
9	←		RRC CONNECTION SETUP	
10	→		RRC CONNECTION SETUP COMPLETE	
11	→		CM SERVICE REQUEST	CKSN = initial CKSN, Mobile Identity = TMSI.
12	←		CM SERVICE ACCEPT	
13	→		An initial CM message	
14	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
15	→		RRC CONNECTION RELEASE COMPLETE	
16		SS		The UE shall not initiate an RRC connection establishment. This is checked during T3211.
17	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
Steps 18 to 23 are optional.				
18	→		RRC CONNECTION REQUEST	Establishment Cause: Detach
19	←		RRC CONNECTION SETUP	
20	→		RRC CONNECTION SETUP COMPLETE	
21	→		IMSI DETACH INDICATION	
22	←		RRC CONNECTION RELEASE	

Step	Direction		Message	Comments
	UE	**SS**		
23	→		RRC CONNECTION RELEASE COMPLETE	
24	UE			Depending on what has been performed in step 17 the UE is brought back to operation.
25	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
26	←		RRC CONNECTION SETUP	
27	→		RRC CONNECTION SETUP COMPLETE	
28	→		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.
29		SS		performs step 14 of 9.4.3.2.
29a			(void)	
29b	→		CELL UPDATE	CCCH.
29c	←		RRC CONNECTION RELEASE	CCCH.
29d		SS		performs step 15c of 9.4.3.2.
30	UE			A MO CM connection is attempted before T3211 expiry.
31	→		RRC CONNECTION REQUEST	
32	←		RRC CONNECTION SETUP	
33	→		RRC CONNECTION SETUP COMPLETE	
34	→		CM SERVICE REQUEST	CKSN = initial CKSN, Mobile Identity = TMSI.
35	←		SECURITY MODE COMMAND	
36	→		SECURITY MODE COMPLETE	
37	→		An initial CM message	
38	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
39	→		RRC CONNECTION RELEASE COMPLETE	
40		SS		The UE shall not initiate an RRC connection establishment. This is checked during T3211 UE is "idle, updated" in cell B.
40/1	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
Steps 40/2 to 40/7 are optional.				
40/2	→		RRC CONNECTION REQUEST	Establishment Cause: Detach
40/3	←		RRC CONNECTION SETUP	
40/4	→		RRC CONNECTION SETUP COMPLETE	
40/5	→		IMSI DETACH INDICATION	
40/6	←		RRC CONNECTION RELEASE	
40/7	→		RRC CONNECTION RELEASE COMPLETE	
40/8	UE			Depending on what has been performed in step 40/1, the UE is brought back to operation.
40/9	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
40/10	←		RRC CONNECTION SETUP	
40/11	→		RRC CONNECTION SETUP COMPLETE	
40/12	→		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.
40/13	←		LOCATION UPDATING ACCEPT	without mobile identity
40/14	←		RRC CONNECTION RELEASE	
40/15	→		RRC CONNECTION RELEASE COMPLETE	
41		SS		The SS shall wait at most T3212 + 15 s.
42	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
43	←		RRC CONNECTION SETUP	
44	→		RRC CONNECTION SETUP COMPLETE	
45	→		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.
46		SS		performs step 14 of 9.4.3.2.

Step	Direction		Message	Comments
	UE	SS		
46a			(void)	
46b	→		CELL UPDATE	CCCH.
46c	←		RRC CONNECTION RELEASE	CCCH.
46d		SS		performs step 15c of 9.4.3.2.
47		UE		The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
48	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
49	←		RRC CONNECTION SETUP	
50	→		RRC CONNECTION SETUP COMPLETE	
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 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
52a		UE		performs step 8 of 9.4.3.2.
53		UE		The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
54	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
55	←		RRC CONNECTION SETUP	
56	→		RRC CONNECTION SETUP COMPLETE	
57	→		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.
58		SS		performs step 14 of 9.4.3.2.
59			(void)	
59a	→		CELL UPDATE	CCCH.
59b	←		RRC CONNECTION RELEASE	CCCH.
59c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
59d		UE		The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
60	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
61	←		RRC CONNECTION SETUP	
62	→		RRC CONNECTION SETUP COMPLETE	
63	→		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.
64		SS		performs step 14 of 9.4.3.2.
64a			(void)	
64b	→		CELL UPDATE	CCCH.
64c	←		RRC CONNECTION RELEASE	CCCH.
64d		SS		performs step 15c of 9.4.3.2.
65		UE		The UE shall not initiate an RRC connection establishment during T3212 seconds at least after the RRC connection is released.
66	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
67	←		RRC CONNECTION SETUP	
68	→		RRC CONNECTION SETUP COMPLETE	
69	→		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.
70	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
71	→		AUTHENTICATION RESPONSE	
71a	←		SECURITY MODE COMMAND	
71b	→		SECURITY MODE COMPLETE	
72			(void)	

Step	Direction		Message	Comments
	UE	**SS**		
72a	←		LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
72b	→		TMSI REALLOCATION COMPLETE	
73	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
74	→		RRC CONNECTION RELEASE COMPLETE	
75	UE			The UE shall not initiate an RRC connection establishment during than T3212 seconds at least after the RRC connection is released.
76	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
77	←		RRC CONNECTION SETUP	
78	→		RRC CONNECTION SETUP COMPLETE	
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 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
80a	UE			performs step 8 of 9.4.3.2.
81	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
82	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
83	←		RRC CONNECTION SETUP	
84	→		RRC CONNECTION SETUP COMPLETE	
85	→		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.
86		SS		performs step 14 of 9.4.3.2.
87			(void)	
87a	→		CELL UPDATE	CCCH.
87b	←		RRC CONNECTION RELEASE	CCCH.
87c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
87d	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
88	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
89	←		RRC CONNECTION SETUP	
90	→		RRC CONNECTION SETUP COMPLETE	
91	→		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.
92		SS		performs step 14 of 9.4.3.2.
92a			(void)	
92b	→		CELL UPDATE	CCCH.
92c	←		RRC CONNECTION RELEASE	CCCH.
92d		SS		performs step 15c of 9.4.3.2.
93	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
94	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
95	←		RRC CONNECTION SETUP	
96	→		RRC CONNECTION SETUP COMPLETE	
97	→		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.
98		SS		performs step 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
98a	UE			performs step 8 of 9.4.3.2.

Step	Direction UE	SS	Message	Comments
99	UE			A MO CM connection is attempted before T3212 expiry. Establishment cause: Registration.
100	→		RRC CONNECTION REQUEST	
101	←		RRC CONNECTION SETUP	
102	→		RRC CONNECTION SETUP COMPLETE	
103	→		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.
104	←		LOCATION UPDATING ACCEPT	IE mobile identity = TMSI.
105	→		TMSI REALLOCATION COMPLETE	
106	←		RRC CONNECTION RELEASE	
107	→		RRC CONNECTION RELEASE COMPLETE	
Steps 108 to 114 are optional. Wait 10 s to decide whether to go directly to step 115.				
108	→		RRC CONNECTION REQUEST	
109	←		RRC CONNECTION SETUP	
110	→		RRC CONNECTION SETUP COMPLETE	
111	→		CM SERVICE REQUEST	CKSN = no key available, Mobile identity = TMSI
112	←		CM SERVICE REJECT	cause #17 (network failure).
113	←		RRC CONNECTION RELEASE	
114	→		RRC CONNECTION RELEASE COMPLETE	
115	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
Steps 116 to 121 are optional.				
116	→		RRC CONNECTION REQUEST	Establishment Cause: Detach
117	←		RRC CONNECTION SETUP	
118	→		RRC CONNECTION SETUP COMPLETE	
119	→		IMSI DETACH INDICATION	
120	←		RRC CONNECTION RELEASE	
121	→		RRC CONNECTION RELEASE COMPLETE	
122	UE			Depending on what has been performed in step 115 the UE is brought back to operation.
123	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
124	←		RRC CONNECTION SETUP	
125	→		RRC CONNECTION SETUP COMPLETE	
126	→		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.
127		SS		performs step 14 of 9.4.3.2.
128			(void)	
128a	→		CELL UPDATE	CCCH.
128b	←		RRC CONNECTION RELEASE	CCCH.
128c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
128d	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
129	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
130	←		RRC CONNECTION SETUP	
131	→		RRC CONNECTION SETUP COMPLETE	
132	→		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.
133	←		RRC CONNECTION RELEASE	After the sending of the message the SS waits for the disconnection of the main signalling link.

Step	Direction		Message	Comments
	UE	**SS**		
134	→		RRC CONNECTION RELEASE COMPLETE	
135	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
136	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
137	←		RRC CONNECTION SETUP	
138	→		RRC CONNECTION SETUP COMPLETE	
139	→		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.
140			(void)	
140a	←		LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
140b	→←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
141	→		RRC CONNECTION RELEASE COMPLETE	
142	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
143	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
144	←		RRC CONNECTION SETUP	
145	→		RRC CONNECTION SETUP COMPLETE	
146	→		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.
147		SS		performs step 14 of 9.4.3.2.
147a			(void)	
147b	→		CELL UPDATE	CCCH.
147c	←		RRC CONNECTION RELEASE	CCCH.
147d		SS		performs step 15c of 9.4.3.2.
148	UE			The UE shall not initiate an RRC connection establishment during T3212 seconds at least after the RRC connection is released.
149	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
150	←		RRC CONNECTION SETUP	
151	→		RRC CONNECTION SETUP COMPLETE	
152	→		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.
153	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
154	→		AUTHENTICATION RESPONSE	
154a	←		SECURITY MODE COMMAND	
154b	→		SECURITY MODE COMPLETE	
155	←		LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
156	→		TMSI REALLOCATION COMPLETE	
157	←		RRC CONNECTION RELEASE	
158	→		RRC CONNECTION RELEASE COMPLETE	
159	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
Steps 160 to 165 are optional.				
160	→		RRC CONNECTION REQUEST	Establishment Cause: Detach
161	←		RRC CONNECTION SETUP	
162	→		RRC CONNECTION SETUP COMPLETE	
163	→		IMSI DETACH INDICATION	

Step	Direction		Message	Comments
	UE	SS		
164	←		RRC CONNECTION RELEASE	
165	→		RRC CONNECTION RELEASE COMPLETE	
166	UE			Depending on what has been performed in step 159 the UE is brought back to operation.
167	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
168	←		RRC CONNECTION SETUP	
169	→		RRC CONNECTION SETUP COMPLETE	
170	→		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.
171		SS		performs step 14 of 9.4.3.2.
171a			(void)	
171b	→		CELL UPDATE	CCCH.
171c	←		RRC CONNECTION RELEASE	CCCH.
171d		SS		performs step 15c of 9.4.3.2.
172	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
173	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
174	←		RRC CONNECTION SETUP	
175	→		RRC CONNECTION SETUP COMPLETE	
176	→		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.
177		SS		performs step 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
177a	UE			performs step 8 of 9.4.3.2.
178	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
179	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
180	←		RRC CONNECTION SETUP	
181	→		RRC CONNECTION SETUP COMPLETE	
182	→		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.
183		SS		performs step 14 of 9.4.3.2.
184			(void)	
184a	→		CELL UPDATE	CCCH.
184b	←		RRC CONNECTION RELEASE	CCCH.
184c		SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
184d	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
185	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
186	←		RRC CONNECTION SETUP	
187	→		RRC CONNECTION SETUP COMPLETE	
188	→		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.
189		SS		performs step 14 of 9.4.3.2.
189a			(void)	
189b	→		CELL UPDATE	CCCH.
189c	←		RRC CONNECTION RELEASE	CCCH.
189d		SS		performs step 15c of 9.4.3.2.
190	UE			A MO CM connection id attempted before T3212 expiry
191	→		RRC CONNECTION REQUEST	Establishment cause: Registration.
192		←	SS	RRC CONNECTION SETUP	

Step	Direction		Message	Comments
	UE	SS		
193	→		RRC CONNECTION SETUP COMPLETE	
194	→		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.
195		←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
196	→		AUTHENTICATION RESPONSE	
196a		←	SECURITY MODE COMMAND	
196b	→		SECURITY MODE COMPLETE	
197		←	LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
198	→		TMSI REALLOCATION COMPLETE	
199		←	RRC CONNECTION RELEASE	
200	→		RRC CONNECTION RELEASE COMPLETE	
Steps 202 to 208 are optional.				
201			(void)	
202	→		RRC CONNECTION REQUEST	
203		←	RRC CONNECTION SETUP	
204	→		RRC CONNECTION SETUP COMPLETE	
205	→		CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
206		←	CM SERVICE REJECT	cause #17 (network failure).
207		←	RRC CONNECTION RELEASE	
208	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.4.3.4.5 Test requirement

1)

1.1 At step 8 the UE shall send a RRC CONNECTION REQUEST message and at step 11 the UE shall send a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;

1.2 At step 11 the UE shall not attempt a location updating procedure.

2)

2.1 At step 31 the UE shall send a RRC CONNECTION REQUEST message and at step 34 the UE shall send a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;

2.2 At step 39 the UE shall not attempt a location updating procedure.

3) At step 51 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "periodic updating".

3.1 At step 69 the UE shall send a 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".

4) At step 103 the UE shall send a LOCATION UPDATING REQUEST message.

5) At step 132 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "IMSI attach".

5.1 At step 152 the UE shall send a 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".

6) At step 194 the UE shall send a LOCATION UPDATING REQUEST message.

9.4.4 Location updating / release / expiry of T3240

9.4.4.1 Definition

9.4.4.2 Conformance requirement

The UE receiving a LOCATION UPDATING ACCEPT 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.

9.4.4.3 Test purpose

To verify that the UE aborts the RRC-connection at the expiry of timer T3240.

9.4.4.4 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.

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.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE1)
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	
6	←		LOCATION UPDATING ACCEPT	
7		SS		The SS waits T3240 expiry.
8	→		SIGNALLING CONNECTION RELEASE REQUEST	The UE shall abort the RRC connection. ~~Note~~ (NOTE2)~~:~~ ~~At the expiration of T3240, as per TS 24.008, RR connection shall be aborted. In UMTS, UE cannot release RRC connection on its own. Instead, UE can send a Signalling Connection Release Request to the UTRAN, in order to initiate the release of RRC connection.~~
9	←		RRC CONNECTION RELEASE	SS disconnect the connection established.
10	→		RRC CONNECTION RELEASE COMPLETE	Send only if RRC Connection Release is send.

NOTE1: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

NOTE2: At the expiration of T3240, as per TS 24.008, RR connection shall be aborted. In UMTS, UE cannot release RRC connection on its own. Instead, UE can send a Signalling Connection Release Request to the UTRAN, in order to initiate the release of RRC connection.

Specific message contents

None.

9.4.4.5 Test requirement

At step 10 the UE shall abort the RRC connection.

9.4.5 Location updating / periodic

9.4.5.1 Location updating / periodic spread

9.4.5.1.1 Definition

9.4.5.1.2 Conformance requirement

1) The UEs shall perform spreading of the time before performing a periodic location updating when the location updating timer value is reduced.

2) The UE shall reset timer T3212 when the 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 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.

9.4.5.1.3 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.

9.4.5.1.4 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.

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": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"location updating type": IMSI attach.
6	←		LOCATION UPDATING ACCEPT	
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		3 minutes after step 8 the value of T3212 is set to 6 minutes.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall be sent by the UE between 5 minutes 45 s and 6 minutes 15 s after step 8.
11	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		LOCATION UPDATING REQUEST	"location updating type": periodic updating.
14	←		LOCATION UPDATING ACCEPT	
15	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
16	→		RRC CONNECTION RELEASE COMPLETE	
17		SS		IMSI attach/detach is not allowed.
18	UE			The UE is deactivated.
19	UE			The UE is activated.
20		SS		The SS waits until the periodic location updating.
21	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall arrive during the 6 minutes following the UE activation.
22	←		RRC CONNECTION SETUP	
23	→		RRC CONNECTION SETUP COMPLETE	
24	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
25	←		LOCATION UPDATING ACCEPT	
26	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
27	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.4.5.1.5 Test requirement

At step 10 the UE shall send an RRC CONNECTION REQUEST for a periodic location updating.

At step 21 the UE shall send an RRC CONNECTION REQUEST for a periodic location updating.

9.4.5.2 Location updating / periodic normal / test 1

9.4.5.2.1 Definition

9.4.5.2.2 Conformance requirement

1 The 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 UE shall stop and reset the timer T3212 of the periodic location updating procedure when the 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.

9.4.5.2.3 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.

9.4.5.2.4 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.

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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		CM SERVICE REJECT	cause #17 (network failure).
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The SS waits until the periodic location updating.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. 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.
11	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
14	←		LOCATION UPDATING ACCEPT	
15	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
16	→		RRC CONNECTION RELEASE COMPLETE	
17		SS		The SS waits 1 minute.
18	←		Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Mobile identity" = IMSI. "Establishment cause": Terminating Conversational Call.
19	→		PAGING RESPONSE	
20	←		AUTHENTICATION REQUEST	
21	→		AUTHENTICATION RESPONSE	
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
23	→		RRC CONNECTION RELEASE COMPLETE	
24		SS		The SS waits until the periodic location updating.
25	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. 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.
26	←		RRC CONNECTION SETUP	
27	→		RRC CONNECTION SETUP COMPLETE	
28	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
29	←		LOCATION UPDATING ACCEPT	
30	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
31	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.4.5.2.5 Test requirement

At step 10 the UE shall initiate an RRC CONNECTION REQUEST 12 minutes after the release of the RRC CONNECTION (at step 7).

At step 25 the UE shall initiate an RRC CONNECTION REQUEST 12 minutes after the release of the RRC CONNECTION (at step 22).

9.4.5.3 Location updating / periodic normal / test 2

9.4.5.3.1 Definition

9.4.5.3.2 Conformance requirement

When a LOCATION UPDATING ACCEPT or a LOCATION UPDATING REJECT message is received, the timer T3212 is stopped and reset and the UE shall perform a periodic location updating after T3212 expiry.

References

TS 24.008 clause 4.4.2.

9.4.5.3.3 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.

9.4.5.3.4 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

USIM removal possible while UE is powered Yes/No.

Switch off on button yes/No.

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 UE	Direction SS	Message	Comments
1		SS		The following messages are sent and shall be received on cell B. ~~The RF level of cell A is lowered until the UE selects cell B.~~ Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	→		RRC CONNECTION REQUEST	"establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"location updating type" = normal.
6	←		LOCATION UPDATING ACCEPT	
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The SS waits until the periodic location updating.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall arrive between 5 minutes 45s and 6 minutes 15 s after the last release of the RRC connection by the SS.
11	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
14	←		LOCATION UPDATING ACCEPT	
15	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
16	→		RRC CONNECTION RELEASE COMPLETE	
17		UE		If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed. steps 18 to 23 may be performed or not depending on the action made in step 17.
18	→		RRC CONNECTION REQUEST	"Establishmet cause": Detach
19	←		RRC CONNECTION SETUP	
20	→		RRC CONNECTION SETUP COMPLETE	
21	→		IMSI DETACH INDICATION	
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
23	→		RRC CONNECTION RELEASE COMPLETE	
24		UE		Depending on what has been performed in step 17 the UE is brought back to operation.
25	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
26	←		RRC CONNECTION SETUP	
27	→		RRC CONNECTION SETUP COMPLETE	
28	→		LOCATION UPDATING REQUEST	"Location updating type" = IMSI attach.
29	←		LOCATION UPDATING ACCEPT	
30	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
31	→		RRC CONNECTION RELEASE COMPLETE	
32		SS		The SS waits until the periodic location updating.
33	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall arrive between 5 minutes 45 s and 6 minutes 15s after the last release of the RRC connection by the SS.

Step	Direction		Message	Comments
	UE	SS		
34		←	RRC CONNECTION SETUP	
35	→		RRC CONNECTION SETUP COMPLETE	
36	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
37		←	LOCATION UPDATING ACCEPT	
38		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
39	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.5.3.5 Test requirement

After step 28 the UE shall performs an IMSI attach.

After step 33 the UE shall performs periodic location updating 6 minutes after step 28.

9.4.5.4 Location updating / periodic HPLMN search for higher priority PLMN when in VPLMN

9.4.5.4.1 Location updating / periodic HPLMN search for higher priority PLMN / UE waits time T

9.4.5.4.1.1 Definition

9.4.5.4.1.2 Conformance requirement

1. If the MS is in a VPLMN, the MS shall periodically attempt to obtain service on its HPLMN or higher priority PLMN listed in "user controlled PLMN selector" or "operator controlled PLMN selector".

2. In the case that the mobile has a stored "Equivalent PLMNs" list the mobile shall only select a PLMN if it is of a higher priority than those of the same country as the current serving PLMN which are stored in the "Equivalent PLMNs" list.

3. For this purpose, a value T minutes may be stored in the SIM, T is either in the range 6 minutes to 8 hours in 6 minute steps or it indicates that no periodic attempts shall be made. If no value is stored in the SIM, a default value of 60 minutes is used.

4. The attempts to access the HPLMN or higher priority PLMN shall be as specified below:

   a) The periodic attempts shall only be performed in automatic mode when the MS is roaming;

   b) After switch on, a period of at least 2 minutes and at most T minutes shall elapse before the first attempt is made;

   c) The MS shall make an attempt if the MS is on the VPLMN at time T after the last attempt;

   d) Periodic attempts shall only be performed by the MS while in idle mode;

   e) If the HPLMN or higher priority PLMN is not found, the MS shall remain on the VPLMN;

   f) In steps i), ii) and iii) the MS shall limit its attempts to access higher priority PLMNs to PLMNs of the same country as the current serving VPLMN;

g) Only the priority levels of Equivalent PLMNs of the same country as the current serving VPLMN shall be taken into account to compare with the priority level of a selected PLMN.

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 USIM.

References

TS 22.011 clause 3.2.2.5. and TS 23.122 4.4.3.3.

9.4.5.4.1.3 Test purpose

To verify that when a cell of a higher priority PLMN the HPLMN becomes available, following the successful location request on athe VPLMN of the home country and after the first search the mobile has failed to find a higher priority its HPLMN, that the UE shall perform a location update request on a higher priority the HPLMN after time T. Were T is the HPLMN Search Period stored in the USIM.

9.4.5.4.1.4 Method of test

Initial conditions

- System Simulator:

  - twofour cells A, and B, C and D, belonging to different location areas with location identification a, and b, c and d. Their country codes and mobile network codes are defined as follows:

Cell	MCC	MNC
A	001	001
B	022	002
C	001	010
D	001	100

  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 Cells A, B and C shall not be broadcasting. IMSI attach/detach is not allowed on eitherany of other cells.

- User Equipment:

  - the UE is switched off. The HPLMN Search Period on the USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".

  - The following USIM fields are configured:

USIM field	Priority	PLMN
EF$_{HPLMNwAcT}$	1st	A
EF$_{PLMNwAcT}$	1st	B
	2nd	E
EF$_{OPLMNwAcT}$	1st	C
	2nd	D

  In the table PLMN X is the PLMN code from cell X (see above). PLMN E is defined as MCC=001, MNC=030.

Related ICS/IXIT statements

Switch on/off button Yes/No.

Test Procedure

Only Cell BD 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 BD. The SS shall include the PLMN E in the list of equivalent PLMNs that is sent in the Location Update Accept message. Cells AB and C shall be made available after 8 minutes, thus ensuring the UE fails to find any higher priority the HPLMN during its first attempt. It is verified that the UE does not performs a location update request on Cell AB or C (waiting for at least, within 6 minutes after broadcasting of Cells AB and C). Then Cell A is also made available, and 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		
1	UE			The following messages shall be sent and received on Cell BD. The UE is switched on by either using the Power Switch or by applying power.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"Location Update Type": Normal.
6	←		LOCATION UPDATING ACCEPT	
7	←		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	→		RRC CONNECTION RELEASE COMPLETE	
8a		SS		The SS waits a period of 8 minutes, this allowing the UE to make its first periodic search.
8b		SS		Set the cell type of cell B to the "Suitable neighbor cell". Set the cell type of cell C to the "Suitable neighbor cell". (NOTE) The SS shall wait for 7 minutes during which no messages should be received.
9		SS		Cell A is made available. Set the cell type of cell A to the "Suitable neighbor cell". (NOTE) Within 6 minutes after step 9, the following messages shall be sent and received on Cell A.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
11	←		RRC CONNECTION SETUP	
12	→		RRC CONNECTION SETUP COMPLETE	
13	→		LOCATION UPDATING REQUEST	"Location Update Type": normal.
14	←		LOCATION UPDATING ACCEPT	
15	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
16	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.5.4.1.5 Test requirement

At step 9, the UE shall not send any LOCATION UPDATING REQUEST on cell B or C.

At step 13 the UE shall send a LOCATION UPDATING REQUEST message on Cell A.

9.4.5.4.2 Location updating / ~~periodic HPLMN~~ search for higher priority PLMN / UE in manual mode

9.4.5.4.2.1 Definition

9.4.5.4.2.2 Conformance requirement

The periodic attempts shall only be performed if in automatic mode when the UE is in a VPLMN~~roaming in its home country~~.

References

TS 22.011 clause 3.2.2.5. and TS 23.122 clause 4.4.3.3.

9.4.5.4.2.3 Test purpose

To verify that no ~~HPLMN~~ Search for Higher Priority PLMN is performed when the UE is not in automatic mode.

9.4.5.4.2.4 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 USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".

Related ICS/IXIT statements

Switch on/off button Yes/No.

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 UE SS	Message	Contents
1	UE		The following messages shall be sent and received on Cell B. The UE is switched on by either using the Power Switch or by applying power.
2	→	RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←	RRC CONNECTION SETUP	
4	→	RRC CONNECTION SETUP COMPLETE	
5	→	LOCATION UPDATING REQUEST	"Location Update Type": Normal.
6	←	LOCATION UPDATING ACCEPT	
7	←	RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
8	→	RRC CONNECTION RELEASE COMPLETE	
9	UE		The UE is forced into manual selection mode.
10	SS		~~Cell A is made available.~~ Set the cell type of cell A to the "Suitable neighbor cell". (NOTE)
11	SS		The SS waits a period of 6 minutes. During this time no messages shall be received on Cell A.

NOTE: The definitions for "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.5.4.2.5 Test requirement

At step 11 the UE shall not attempt to perform a location update.

9.4.5.4.3 Location updating / ~~periodic HPLMN~~ search for higher priority PLMN / UE waits at least two minutes and at most T minutes

9.4.5.4.3.1 Definition

9.4.5.4.3.2 Conformance requirement

After switch on, the UE waits at least 2 minutes and at most T minutes before the first ~~HPLMN~~ Search for higher priority PLMN is attempted.

References

TS 22.011 clause 3.2.2.5. and TS 23.122 4.4.3.3.

9.4.5.4.3.3 Test purpose

To verify that the UE waits at least 2 minutes and at most T minutes before attempting its first ~~HPLMN~~ Search for higher priority PLMN.

9.4.5.4.3.4 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 USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".

Related ICS/IXIT statements

Switch on/off button Yes/No.

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		
1	UE			The following messages shall be sent and received on Cell B. The UE is switched on by either using the Power Switch or by applying power.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"Location Update Type": Normal.
6	←		LOCATION UPDATING ACCEPT	
7	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		~~Cell A is made available.~~ Set the cell type of cell A to the "Suitable neighbor cell". (NOTE)
10		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~~6 minutes after the UE is switched on the following messages shall be sent and received on cell A.
11	→		RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall be sent between 2 and 6 minutes after step 1
12	←		RRC CONNECTION SETUP	
13	→		RRC CONNECTION SETUP COMPLETE	
14	→		LOCATION UPDATING REQUEST	"Location Update Type": normal.
15	←		LOCATION UPDATING ACCEPT	
16	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
17	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.5.4.3.5 Test requirement

At step 11 the UE shall attempt to perform a location update.

9.4.6 Location updating / interworking of attach and periodic

9.4.6.1 Definition

9.4.6.2 Conformance requirement

1) If the UE is in service state NO CELL AVAILABLE, LIMITED SERVICE, PLMN SEARCH or PLMN SEARCH-NORMAL SERVICE when the timer T3212 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 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.

9.4.6.3 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 UE does not inform the network of its return to coverage.

9.4.6.4 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 USIM's forbidden PLMN list.

Related ICS/IXIT statements

None.

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 following messages are sent and shall be received on cell A. The UE is activated in automatic network selection mode.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"location updating type": IMSI attach.
6	←		LOCATION UPDATING ACCEPT	
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9		SS		The SS waits 1 minute after step 8. ~~, cell a is switched off~~ Set the cell type of cell A to the "Off cell". (NOTE)
10		SS		The SS waits 8 minutes after step 8. ~~, cell a is switched on~~ Set the cell type of cell A to the "Serving cell". (NOTE)
11	→		RRC CONNECTION REQUEST	This message shall be sent by the UE between 11 minutes 45s and 12 minutes 15s after step ~~6~~8.
12	←		RRC CONNECTION SETUP	
13	→		RRC CONNECTION SETUP COMPLETE	
14	→		LOCATION UPDATING REQUEST	"location updating type": periodic.
15	←		LOCATION UPDATING ACCEPT	
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
17	→		RRC CONNECTION RELEASE COMPLETE	
18		SS		The SS waits 3 minutes after step 17. ~~, cell a is switched off~~ Set the cell type of cell A to the "Off cell". (NOTE)
19		SS		The SS waits 14 minutes after step 17. ~~, cell a is switched on and cell b is switched off~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (NOTE)
20	→		RRC CONNECTION REQUEST	This message shall be sent by the UE before 17 minutes after step 17.
21	←		RRC CONNECTION SETUP	
22	→		RRC CONNECTION SETUP COMPLETE	
23	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
24	←		LOCATION UPDATING ACCEPT	
25	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
26	→		RRC CONNECTION RELEASE COMPLETE	
27	UE			The UE shall not initiate an RRC connection establishment. This is checked during 12 minutes.

NOTE: The definitions for "Serving cell" and "Off cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.6.5 Test requirement

1) At step 20 the UE shall send an RRC CONNECTION REQUEST and at step 23 the UE shall attempt to perform a location update.

2) At step 11 the UE shall send an RRC CONNECTION REQUEST and at step 14 the UE shall attempt to perform a location update.

3) At step 27 the UE shall not initiate an RRC connection during 12minutes.

9.5 MM connection

9.5.1 Introduction

[tbd]

9.5.2 MM connection / establishment in security mode

9.5.2.1 Definition

9.5.2.2 Conformance requirement

1) The UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.

2) The UE shall be able to interpret security mode setting as acceptance of its CM service request i.e. send a CM message.

References

TS 24.008 clause 4.5.1.1.

9.5.2.3 Test purpose

To verify that the UE can correctly set up an MM connection in an origination and interpret security mode setting as acceptance of its CM service request.

9.5.2.4 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.

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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		AUTHENTICATION REQUEST	
7	→		AUTHENTICATION RESPONSE	
8	←		SECURITY MODE COMMAND	
9	→		SECURITY MODE COMPLETE	
A10	→		SETUP	
A11	←		RELEASE COMPLETE	"Cause" IE: "unassigned number".
B10	→		REGISTER	
B11	←		RELEASE COMPLETE	
C10	→		CP-DATA	
C11	←		CP-ACK	
C12	←		CP-DATA	
C13	→		CP-ACK	
14	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
15	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.2.5   Test requirement

At step 5 the UE shall send the CM SERVICE REQUEST message to the SS.

At step A10 or B10 or C10 the UE shall send a CM message and the SS shall release the RRC connection (step 14).

9.5.3   MM connection / establishment in non-security mode

9.5.3.1   Definition

9.5.3.2   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.

9.5.3.3   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.

9.5.3.4 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.

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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		CM SERVICE ACCEPT	
A7	→		SETUP	
B7	→		REGISTER	
C7	→		CP-DATA	
C8	←		CP-ACK	
C9	←		CP-DATA	
C10	→		CP-ACK	
11	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.3.5 Test requirement

At step 5 the UE shall send the CM SERVICE REQUEST message to the SS.

At step A7 or B7 or C7 the UE shall send a CM message and the SS shall release the RRC connection (step 12).

9.5.4 MM connection / establishment rejected

9.5.4.1 Definition

9.5.4.2 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.

9.5.4.3 Test purpose

To verify that the UE does not send a layer 3 message when the service request is rejected by the SS.

9.5.4.4 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.

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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		CM SERVICE REJECT	"Reject cause" IE: "requested service option not subscribed".
7	SS			The UE shall not send a layer 3 message. This is checked during 5 s.
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
9	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.4.5 Test requirement

The UE shall attempt MO CM connection (step 1).

At step 7 the UE shall not send a layer 3 message and at step 9 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

9.5.5 MM connection / establishment rejected cause 4

9.5.5.1 Definition

9.5.5.2 Conformance requirement

1) The UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.

2) The 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 UE shall then be able to perform a location updating procedure.

References

TS 24.008 clause 4.5.1.1.

9.5.5.3 Test purpose

To verify that the UE can correctly accept a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR".

9.5.5.4 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.

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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
6	←		CM SERVICE REJECT	"Reject cause" = "IMSI unknown in VLR".
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	→		RRC CONNECTION RELEASE COMPLETE	
9	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
10	←		RRC CONNECTION SETUP	
11	→		RRC CONNECTION SETUP COMPLETE	
12	→		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).
13	←		AUTHENTICATION REQUEST	
14	→		AUTHENTICATION RESPONSE	
14a	←		SECURITY MODE COMMAND	
14b	→		SECURITY MODE COMPLETE	
15	←		LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI.
16	→		TMSI REALLOCATION COMPLETE	
17	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
18	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.5.5 Test requirement

1) The UE shall attempt MO CM connection (at step 1) and at step 5 the UE shall send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.

2) At step 6 the SS should send a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR", and at step 8 the UE shall send an RRC CONNECTION RELEASE message.

3) At step 12 the UE send a 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 "deleted LAI".

9.5.6 MM connection / expiry T3230

9.5.6.1 Definition

9.5.6.2 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.

9.5.6.3 Test purpose

To verify that at T3230 expiry, the UE aborts the MM-connection establishment.

9.5.6.4 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.

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 send a MM STATUS message and 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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	SS			The SS waits for expiry of timer T3230.
7	←		CM SERVICE ACCEPT	
8	→		MM STATUS	"Reject cause" IE is "message type not compatible with protocol state".
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.6.5 Test requirement

The UE shall attempt MO CM connection (step 1).

At step 8 the UE shall send a MM STATUS message.

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 Definition

9.5.7.1.2 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 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 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 UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 clause 4.3.5.

9.5.7.1.3 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.

9.5.7.1.4 Method of test

Initial Conditions

- System Simulator:

  - 2 cells, default parameters.

- User Equipment:

  - the UE has a valid TMSI, CKSN and CK, 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.

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 s. 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	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		AUTHENTICATION REQUEST	
7	→		AUTHENTICATION RESPONSE	
8	←		ABORT	"reject cause" = #6.
9		SS		The SS waits for 5 s.
10	UE			The UE shall not send any layer 3 message during that time.
11	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	→		RRC CONNECTION RELEASE COMPLETE	
The following messages are sent and shall be received on cell A.				
13		SS		~~The RF levels are changed to make the UE reselect cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
14	UE			The UE performs cell reselection according to procedure as specified in (this however is not checked until step 27). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
15		SS		The SS waits at least 7 minutes for a possible periodic updating.
16	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
17	←		PAGING TYPE 1	"UE identity" IE contains TMSI. Paging Cause: Terminating Conversational Call.
18	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is verified during 3 s.
19	UE			A MO CM connection is attempted.
20	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
21	UE			If the UE supports speech (see ICS), an emergency call is attempted.
22	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
23	←		RRC CONNECTION SETUP	
24	→		RRC CONNECTION SETUP COMPLETE	
25	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment.
26	←		CM SERVICE ACCEPT	

Step	Direction		Message	Comments
	UE	SS		
27	→		EMERGENCY SETUP	
28	←		RELEASE COMPLETE	"Cause" = unassigned number.
29	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
30	→		RRC CONNECTION RELEASE COMPLETE	
31	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
32	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
33	UE			Depending on what has been performed in step 31 the UE is brought back to operation.
34	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
35	←		RRC CONNECTION SETUP	
36	→		RRC CONNECTION SETUP COMPLETE	
37	→		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).
38	←		AUTHENTICATION REQUEST	"CKSN" = CKSN1.
39	→		AUTHENTICATION RESPONSE	
40	←		LOCATION UPDATING ACCEPT	"Mobile Identity" = 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.
43	→		RRC CONNECTION RELEASE COMPLETE	

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

9.5.7.1.5   Test requirement

1) At step 10 the UE shall not send any layer 3 message and at step 12 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

2)

2.1 At step 14 the UE shall not initiate an RRC connection establishment (not perform normal location updating).

2.2 At step 16 the UE shall not initiate an RRC connection establishment.(not perform periodic location updating).

2.3 At step 18 the UE shall not initiate an RRC connection establishment (not respond to paging with TMSI).

2.4 At step 20 the UE shall not initiate an RRC connection establishment (reject any request for Mobile Originating call establishment).

2.5 At step 32 the UE shall not initiate an RRC connection establishment.(not perform IMSI detach).

3) At step 22 the UE shall send an RRC CONNECTION REQUEST message with the establishment cause set to "emergency call".

4) At step 37 the UE send a 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 "deleted LAI".

9.5.7.2 MM connection / abortion by the network / cause not equal to #6

9.5.7.2.1 Definition

9.5.7.2.2 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.

9.5.7.2.3 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.

9.5.7.2.4 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.

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. Upon reception of the RELEASE message, the SS 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	→		RRC CONNECTION REQUEST	"Establishment cause": Originating Background Call.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		CM SERVICE REQUEST	
6	←		CM SERVICE ACCEPT	
7	→		REGISTER	
8	←		ABORT	"reject cause" = #17.
9	←		DISCONNECT	with the TI of the mobile terminating call.
9a	→		RELEASE	
10	←		RELEASE COMPLETE	"cause" = #81. Same PD and TI as the DISCONNECT message.
11	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.7.2.5 Test requirement

At step 10 the SS shall send a RELEASE COMPLETE message and at step 12 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

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 Definition

9.5.8.1.2 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.

9.5.8.1.3 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.

9.5.8.1.4 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.

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 s. The UE shall not send any layer 3 message for 8 s.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach. Then the SS waits for 15 s. During this delay a CM connection is attempted.
6	←		LOCATION UPDATING ACCEPT	follow on proceed IE not included.
7		SS		The SS wait for at least 8 s.
8		UE		The UE shall not send any layer 3 message for 8 s 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.
10	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.8.1.5 Test requirement

After step 8 the UE shall not send any layer 3 messages.

9.5.8.2 MM connection / follow-on request pending / test 2

9.5.8.2.1 Definition

9.5.8.2.2 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.

9.5.8.2.3   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.

9.5.8.2.4   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.

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 s.

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	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	Location updating type = IMSI attach. Then the SS waits for 15 s. During this delay a CM connection is attempted.
6	←		LOCATION UPDATING ACCEPT	follow on proceed IE included.
				If the UE supports the follow on request procedure (see ICS) steps A7 to A9 are performed, otherwise steps B7 to B8 are performed.
A7	→		CM SERVICE REQUEST	
A8	←		CM SERVICE ACCEPT	
A9	→		An initial CM message	
B7	SS			The SS wait for at least 8 s.
B8	UE			The UE shall not send any layer 3 message for 8 s after reception of the LOCATION UPDATING ACCEPT message.
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
11	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.8.2.5 Test requirement

After step 6:

The UE shall send a CM SERVICE REQUEST if the UE supports the follow on request procedure.

The UE shall not send any layer 3 message if the UE does not support the follow on request procedure.

9.5.8.3 MM connection / follow-on request pending / test 3

9.5.8.3.1 Definition

9.5.8.3.2 Conformance requirement

1) The UE shall not set the follow on proceed IE 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.

9.5.8.3.3 Test purpose

1) To check that a UE that has no CM application request pending sets the follow on proceed IE 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.

9.5.8.3.4 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.

Test procedure

The UE is activated. The UE performs location updating. The UE shall set the follow on proceed IE to No follow-on request pending in the LOCATION UPDATING REQUEST message. The SS includes the follow on proceed IE in the LOCATION UPDATING ACCEPT message. The SS waits for 5 s. The UE shall not send any layer 3 message for 5 s. 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	"Establishment cause": Registration.
3	←		RRC CONNECTION SETUP	
4	→		RRC CONNECTION SETUP COMPLETE	
5	→		LOCATION UPDATING REQUEST	"Location updating type" = IMSI attach. The FOR bit is set to No follow-on request pending.
6	←		LOCATION UPDATING ACCEPT	follow on proceed IE is included.
7		SS		The SS wait for 5 s.
8	UE			The UE shall not send any layer 3 message for 5 s after reception of the LOCATION UPDATING ACCEPT message.
9	←		SETUP	
A10	→		CALL CONFIRMED	If the UE supports a basic service on TCH.
B10	→		RELEASE COMPLETE	If the UE does not support any basic service on TCH. cause #88.
11	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	→		RRC CONNECTION RELEASE COMPLETE	

Specific message contents

None.

9.5.8.3.5 Test requirement

At step 8 the UE shall not send any layer 3 message.

After step 9:

The UE shall send CALL CONFIRMED message if the UE supports a basic service on TCH.

The UE shall send RELEASE COMPLETE message if the UE does not support a basic service on TCH.

3GPP TSG-T1 Meeting #14
Sophia Antipolis, France, 21st – 22nd February 2002

T1-020062

3GPP TSG-T1 Sig Meeting #21
Sophia Antipolis, France, 18th – 20th February 2002

T1S-020006r4

CR-Form-v6.1

CHANGE REQUEST

| ⌘ | **34.123-1** CR **155** | ⌘**rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

⌘ **Spec Title: User Equipment (UE) conformance specification;** ⌘
Part 1: Protocol conformance specification

*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 on 34.123-1 Test case 11.1.3.2 Collision of UE initiated and network requested PDP context activation
Source:	⌘	NEC Australia
Work item code:	⌘ TEI	**Date:** ⌘ 18 February 2002
Category:	⌘ **F**	**Release:** ⌘ REL-4

Use *one* of the following categories:
 F (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: ⌘	1. Conformance requirement not complete
	2. Missing PIXIT whether or not Network initiated PDP Context activation is supported.
	3. Step 4 of the expected sequence of Case 2 includes cause which does not exist in the conformance requirement.

Summary of change: ⌘	1. Extended Conformance requirement
	2. Added IXIT Network initiated PDP Context activation
	3. Removed redundant cause value.

Consequences if not approved: ⌘	A correctly implemented UE may not pass the test case.

Clauses affected:	⌘	11.1.3.2

Other specs affected:	⌘	☐ Other core specifications	⌘	34.123-3
		☒ Test specifications		TS 51.010-1
		☐ O&M Specifications		

Other comments:	⌘	Affects testing of UEs of release 99 and above.
		Test case 45.2.4.2 in "Specific message contents", Request PDP Context Activation Reject is not updated after correction in 'Expected sequence' Step 4

	Case 2.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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 a UE initiated and a network requested PDP context activation procedure is identified by the UE if a REQUEST PDP CONTEXT ACTIVATION message is received from the network after the UE has sent an ACTIVATE PDP CONTEXT REQUEST message, and the UE has not yet received an ACTIVATE PDP CONTEXT ACCEPT or ACTIVATE PDP CONTEXT REJECT message.

> NOTE: In general, the UE is unable to test if the PDP type, PDP address and APN in the REQUEST PDP CONTEXT ACTIVATION message are the same as those for the PDN to which it is attempting to activate a context. This is because the UE may have omitted one or more of the parameters in the ACTIVATE PDP CONTEXT REQUEST message, since it is relying on default values to be provided by the network.

> - In the case of such a collision, the UE initiated PDP context activation shall take precedence over the network requested PDP context activation. If the UE is able to compare the PDP type, PDP address and APN requested in the ACTIVATE PDP CONTEXT REQUEST message with those requested in the REQUEST PDP CONTEXT ACTIVATION message and these parameters are equal, then the UE shall discard the REQUEST PDP CONTEXT ACTIVATION message and shall wait for the network response to its ACTIVATE PDP CONTEXT REQUEST message. If the UE is not able to compare the PDP type, PDP address, and APN requested in the ACTIVATE PDP CONTEXT REQUEST message with those requested in the REQUEST PDP CONTEXT ACTIVATION message, then the UE shall send a REQUEST PDP CONTEXT ACTIVATION REJECT message with the cause 'insufficient resources' to the network, and wait for an ACTIVATE PDP CONTEXT ACCEPT message.

Reference

3GPP TS 24.008 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 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

- Network requested PDP context activation 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 PDP context activation is requested by the user with a static PDP address. 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 (with static PDP address)
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 UE that does not support PDP context activation requested by the network.

Test procedure

A PDP 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
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

For Case 1 and Case 2:

Step 2: ACTIVATE PDP CONTEXT REQUEST message contains PDP address and APN IEs.

Step 3: REQUEST PDPD CONTEXT ACTIVATION message contains the same PDP address and APN values as in Step 2.

None.

11.1.3.2.5 Test requirements

In the case of such collision,

- 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.

- UE that does not support PDP context activation requested by the network shall reject PDP context activation initiated by the SS.

Step 3: REQUEST PDPD CONTEXT ACTIVATION message contains the same PDP address and APN values as in Step 2.

None.

CR-Form-v6.1

CHANGE REQUEST

⌘	**34.123-1**	**CR**	154	⌘ rev	⌘	Current version:	**4.1.0**	⌘
	Spec Title:							⌘

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: ⌘	RRC Tests for TDD both options.
Source: ⌘	Siemens
Work item code: ⌘	LCRTDD	*Date:* ⌘ 1.02.02
Category: ⌘ **F**	*Release:* ⌘ REL-4

Use *one* of the following categories:
F (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: ⌘	Introduces updates to RRC test parameters for TDD options.
Summary of change: ⌘	In table 8.1.2.4 TDD channel and values are added Correction in the units to use for FDD changed to dBm/3.84 MHz RRC
Consequences if not approved: ⌘	Test procedures will not be defined for the TDD 1.28 Mcps and 3.84 Mcps options.

Clauses affected: ⌘	8.2
Other specs affected: ⌘	☐ Other core specifications ⌘ TS 34.123-2 **X** Test specifications ☐ O&M Specifications
Other comments: ⌘	This Test case is applicable to Release 99 and Release 4

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.

3. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and either IE "frequency info" or IE "system info" is available in the message, the UE shall attempt to perform cell reselection using these information. Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.

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" lapses, if the UE receives an RRC CONNECTION REJECT message which includes the IE "wait time" not set to 0.
To confirm that the UE performs 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. The transmission power of cell 2 is 15 dB smaller than cell 1.

Table 8.1.2.4

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec (FDD)	dBm/ 3.84 MHz	-60	-75
P-CCPCH (TDD)	dBm	-60	-75

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 REQUEST 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 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 remain unchanged.
5		←	RRC CONNECTION REJECT	This message shall include 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)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Checked to see if it is set to IMSI stored in the test TEST USIM card.
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 2) - FDD

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE mode	FDD
UARFCN uplink (Nu)	Set to the UARFCN for uplink carrier of cell 2
UARFCN downlink (Nd)	Not present

RRC CONNECTION REJECT (Step 2) – TDD

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE Mode	TDD
UARFCN (Nt)	Set to a different UARFCN from the carrier of cell 1

RRC CONNECTION REQUEST (Step 4 and step 6)

Same requirement as in step 1.

RRC CONNECTION REJECT (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds

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 step 7 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message to SS on uplink DCCH and then establish an RRC connection.

3GPP TSG-T1 Meeting #14
Sophia Antipolis, France, 21st – 22nd February 2002

T1-020060

3GPP TSG-T1 Sig Meeting #21
Sophia Antipolis, France, 18th – 20th February 2002

T1S-020004r4

CR-Form-v6.1

CHANGE REQUEST

⌘	**34.123-1** CR **153**	⌘ **rev**	**-**	⌘	Current version:	**4.1.0**	⌘

Spec Title: **User Equipment (UE) conformance specification;** ⌘
Part 1: Protocol conformance specification

*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: ⌘	11.1.2– Extension of reject cause to match conformance requirement	
Source: ⌘	NEC Australia	
Work item code: ⌘	TEI	***Date:*** ⌘ 18 February 2002
Category: ⌘	**F**	***Release:*** ⌘ REL-4

Use one of the following categories:
F (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: ⌘	Test procedure and test steps with REQUEST PDP CONTEXT ACTIVATION REJECT MESSAGE do not refer to all causes in the conformance requirement.	
Summary of change: ⌘	'Test procedure', Step 6 of expected sequence of Case 1 and Step 2 of the expected sequence of Case 2 need to be extended so that the reject cause values include all causes as in the conformance requirement.	
Consequences if not approved: ⌘	A correctly implemented UE may not pass the test case.	

Clauses affected: ⌘	11.1.2 PDP context activation requested by the network, successful and unsuccessful	
Other specs affected: ⌘	☐ Other core specifications ⌘ 34.123-3	
	X Test specifications	
	☐ O&M Specifications	
Other comments: ⌘	Affects testing of mobiles of release 99 and later.	

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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

3GPP TS 24.008 clauses 6.1.3.1.2, 6.1.3.1.4 and 8.3.2.f).

3GPP TS 27.060 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 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. This is repeated until the maximum number of contexts supported by the UE is activated.

If all 256 PDP contexts are supported by the UE (extended TI mechanism in SM allows 256 PDP contexts), skip to step 7, request PDP context activation for an existing PDP context.

If maximum number of PDP contexts supported by the UE is less than 256, one more context should be requested by the SS. In response to this activation request the UE shall return a REQUEST PDP CONTEXT ACTIVATION REJECT message with cause set to 'insufficient resources', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #95-111.

REQUEST PDP CONTEXT ACTIVATION message is then sent by the SS using 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 256 contexts are supported steps 5 and 6 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', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #95-111.
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
9	→		ACTIVATE PDP CONTEXT REQUEST	UE continues with the activation of a new PDP context to replace deactivated context
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 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', 'feature not supported', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #95-111 .

Specific message contents

In Case 1 step 7, 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

The UE that is configured to support one or more PDP contexts simultaneously shall:

- accept PDP context activation initiated by the SS if number of active contexts is lower than the maximum.

- 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 SS.

CR-Form-v6.1

CHANGE REQUEST

⌘   **34.123-1**   **CR**   **152**   ⌘ **rev**   **-**   ⌘   Current version: **4.1.0**   ⌘

Spec Title: **User Equipment (UE) conformance specification;**   ⌘
Part 1: Protocol conformance specification

*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: ⌘	CR on 34.123-1 Test case 11.1.1.1 Attach initiated by context activation/QoS Offered by Network is the QoS Requested	

Source: ⌘	NEC Australia

Work item code: ⌘	TEI	***Date:*** ⌘	18 February 2002

Category: ⌘	**F**	***Release:*** ⌘	REL-4

Use one of the following categories:
F (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: ⌘	Modification of ICS/IXIT statement

Summary of change: ⌘	1. Corrected ICS/IXIT statement 2. Replaced word network with SS in Test procedure and Expected sequence, Step 10 3. Added comment is Step 6 of Expected sequence

Consequences if not approved: ⌘	

Clauses affected: ⌘	11.1.1.1

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

Other comments: ⌘	45.2.1.1 'Test procedure' has to be corrected to match 'Expected sequence'.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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.

A UE, which is capable of operating in both GSM and UMTS, shall use a valid LLC SAPI, while a 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

3GPP TS 24.008 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 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 is in GMM-state "GMM-DEREGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no

- Auto ~~Detach~~ Attach supported yes / no

- Method of context activation

Test procedure

If the UE is attached, then the Detach Request is originated from the UE indicating "GPRS detach without switching off". The ~~network~~ SS responds with a Detach Accept after completing the security mode procedures. 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 CONTEXT 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. Detach is performed by the UE using MMI or AT Commands
2	←		DETACH ACCEPT	SS sends Detach Accept message.
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 (with static PDP address)
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~~ SS to show context is activated

Specific message contents

None.

11.1.1.1.5 Test requirements

When requesting a PDP context activation, the UE shall:

- initiate a PS ATTACH if one is not already active;

- when the SS responds to a PDP context activation request, initiated by the UE, with the requested QoS, the UE 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.

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

T1-020058

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020083

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 151** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to RLC conformance test 7.2.3.25 (missing nack in STATUS PDU)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	***Date:*** ⌘ 2002-02-15
Category: ⌘ **F**		***Release:*** ⌘ REL-4

<u>Use one of the following categories:</u>
   F *(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.

<u>Use one of the following releases:</u>
   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: ⌘	A Nack'd PDU is missing from the second STATUS PDU received by the SS.
Summary of change: ⌘	Changed expected Nack'd PDUs from 13 and 14 to 7, 13, and 14.
Consequences if not approved: ⌘	Test incorrectly specified and UEs may fail.

Clauses affected: ⌘	7.2.3.25
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.2.3.25 Receiver Status Triggers / Detection of missing PDUs

7.2.3.25.1 Definition

This case tests that the UE transmits a status report whenever it detects that a PDU is missing, if this mode of operation is enabled. Incorrect operation of status reporting will cause degradation of service, or possible service failure.

7.2.3.25.2 Conformance requirement

The receiver in any of following cases initiates this procedure … Detection of missing PDUs is used and a missing PDU is detected.

Reference

TS 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 PDUs.

7.2.3.25.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (clause 7.1.3 of TS 34.108) 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 AM_7_PayloadSize - 1 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 7, 13 and 14 were missing.

CR-Form-v4

CHANGE REQUEST

⌘	**34.123-1** CR **150**	⌘ ev	**-**	⌘ Current version:	**4.1.0** ⌘

*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:	⌘	Changes to RLC conformance test 7.2.3.20 (wrong PDUs expected)

Source:	⌘	Ericsson

Work item code:	⌘	TEI		*Date:* ⌘	2002-02-15

Category:	⌘	**F**		*Release:* ⌘	REL-4

Use one of the following categories:
 F (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:	⌘	1. In test case 7.2.3.20 the expected response from the UE is PDUs with sequence numbers 5,6 and 8. In 25.322 Section 9.6 it is specified that the VT(S) value after an AMD PDU is delivered to lower layer shall be used in the poll window formula. Thus, the expected sequence should be PDUs 3,4, and 8 (VT(S) values 4,5, and 9). 2. Other PDUs may be detected by the SS with the poll bit set, resulting in the received PDUs not matching those expected.

Summary of change:	⌘	1. Modified expected PDUs in Test Requirements from SNs 5, 6, and 8 to SNs 3, 4, and 8. 2. Added extra step in Test Procedure to wait for all PDUs with poll bit set before moving the received window and ensuring PDU received in f) with poll bit set has SN 7.

Consequences if not approved:	⌘	Test incorrectly specified, resulting in failure of UEs that operate correctly.

Clauses affected:	⌘	7.2.3.20

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

Other comments:	⌘	Affects R99 and REL-4

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:

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.2.3.20 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 when it has reached Poll_Window% of the transmission window, 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 … Window based polling is used, , and J$\geq$Poll_Window, where J is:

J$\geq$Poll_Window, where J is the window transmission percentage defined by

$$ J = \frac{(4096+VT(S) - VT(A)) \textbf{ mod } 4096}{VT(WS)} * 100 \, , $$

where the constant 4096 is the modulus for AM described in 3GPP TS 25.322 clause 9.4.

Reference

25.322 clauses 9.6 and 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 TS 34.108) 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	
Last transmission PDU poll	FALSE
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 UE test loop mode 1with the UL SDU size set to AM_7_PayloadSize - 1 bytes.

Test procedure

Let W be the size of the transmission window.

a) The SS transmits (W/2) + 2 RLC SDUs of size AM_7_PayloadSize - 1 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 AM_7_PayloadSize - 1bytes.

d) The SS checks the sequence number of the next uplink PDU to be received with the P bit set.

e) The SS shall wait until no more new PDUs are received.

ef) The SS sends a STATUS PDU acknowledging the first two five RLC PDUs received, followed by two further RLC SDUs.

fg) The SS checks the sequence number of the next uplink PDU to be received with the P bit set.

gh)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+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
8	←		DOWNLINK RLC PDU	
9	→		UPLINK RLC PDU	SN = W/2+2, Poll
9a				*SS waits until no more new PDUs are received*
10	←		STATUS PDU	ACK SN 0 to 34
11	←		DOWNLINK RLC PDU	
12	←		DOWNLINK RLC PDU	
13	→		UPLINK RLC PDU	SN = W/2+3
14	→		UPLINK RLC PDU	SN = W/2+4, Poll
15			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 83, 4, and 8. No other PDUs should have their P bits set.

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Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

T1-020056

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020080r1

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 149** | ⌘ ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to MAC conformance test 7.1.3.1 (improved specification)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘	**F**	**Release:** ⌘ REL-4

Use one of the following categories:
  F *(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: ⌘	Present specification is vague, somewhat confusing, and has minor errors.
Summary of change: ⌘	Improved specification so data insertion takes place at RLC level. Improved clarity.
Consequences if not approved: ⌘	Test is open to interpretation, which could lead to confusion and UE failure.

Clauses affected: ⌘	7.1.3.1
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

How to create CRs using this form:

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.3.1 Priority handling between data flows of one UE

7.1.3.1.1 Definition and applicability

7.1.3.1.2 Conformance requirement

When selecting between the Transport Format Combinations in the given Transport Format.

Combination Set, priorities of the data flows to be mapped onto the corresponding Transport.

Channels can be taken into account.

The chosen TFC shall be selected from within the set of valid TFCs and shall satisfy the following criteria in the order in which they are listed below:

1. No other TFC shall allow the transmission of more highest priority data than the chosen TFC.

2. No other TFC shall allow the transmission of more data from the next lower priority logical channels. Apply this criterion recursively for the remaining priority levels.

3. No other TFC shall have a lower bit rate than the chosen TFC.

The above rules for TFC selection in the UE shall apply to DCH, and the same rules shall apply for TF selection on RACH and CPCH.

Reference(s)

TS 25.301 clause 5.3.1.2.

TS 25.321, clause 11.4.

7.1.3.1.3 Test purpose

To verify that the priority between data flows of one UE was correctly handled.

7.1.3.1.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.

- The Test-USIM shall be inserted.

The UE is in Connected mode and a connection is established as described in the TS 34.123-1, 7.3.1.2.1.1 PDCP testing, clause "Setup a UE ~~originated~~ terminated PS session using IP Header compression in AM RLC (using Loop back test mode 1)", but for two Badio Bearer entities user (RAB#0 and RAB#1). ~~Therefore two uplink and downlink settings shall be configured.~~ Both user RABs shall be initially configured with a MAC logical piority of 3. The allowed TFCS shall be limited in the UE such that it's not possible to simultaneously transmit at the highest possible data rate on the DCH for each user RAB. Simultaneous trasmission at lower data rates shall be possible.

The RABs are placed into loop-back mode 1 each with the UL SDU size set to 39 bytes

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

Test procedure

a) The SS ~~simultaneously~~ sends ~~certain data blocks~~ 40 RLC SDUs of size 9 bytes each on each user RAB. The SDUs are concatenated, 4 to each PDU.

b) After having received the ~~data block~~PDUs via configured mapped channels, the UE forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its MAC configuration to the SS.

c) The SS receives the returned data and reads ~~the~~ each TFCI which indicates the Transport Format.

d) The SS checks, that high data rate RBs have a high bit rate Transport Format.

~~e) The SS reconfigures its RLC mode to be in AM RLC.~~

~~f~~e) Repeat step a) to ~~e~~d) ~~repeat~~ with different MAC logical channel priorities (MAC priority of ~~RB1 and RB2~~RAB#0 set as 3, MAC priority of ~~RB3 and RB4~~RAB#1 set as 1).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				SS sends ~~CMAC_MAC_HEADER_REQ with disable_mac_header, and~~ CRLC_CONFIG_REQ with RLC mode as "Transparent Mode".
2	←		DATA BLOCKS (Simultaneous PDUs on RAB#0 and RAB#1)	
3	→		LOOP BACK DATA BLOCKS (Order of received PDUs on RAB#0 and RAB#1 depends on configured MAC Logical Priority)	Read the Transfer Format of loop back data blocks, the high bit transfer format apply to the Radio Bearer with high MAC logical channel priority.
~~4~~				~~SS sends CMAC_MAC_HEADER_REQ with disable_mac_header, and CRLC_CONFIG_REQ with RLC mode as "Transparent Mode".~~
~~5~~4				The step 1 to ~~4~~ 3 shall be repeated with different MAC logical channel priority.

Specific Message Contents

RADIO BEARER SET UP:

Information Element	Value/remark
RLC info	
- RLC mode	AM RLC
RB1 mapping info	
- MAC logical channel priority	4
- Downlink	
- Number of logical channels	1
- Downlink transport channel type	DCH
RB2 mapping info	
- MAC logical channel priority	4
- Uplink	
- Number of logical channels	1
- Uplink transport channel type	DCH
RB3 mapping info	
- MAC logical channel priority	2
- Downlink	
- Number of logical channels	1
- Downlink transport channel type	DCH
RB4 mapping info	
- MAC logical channel priority	2
- Uplink	
- Number of logical channels	1
- Uplink transport channel type	DCH
TFS	TF0 (1X366)
	TF1 (2X366)
	TF2 (4X366)
	TF3 (8X366)

7.1.3.1.5 Test requirements

Itteration1:

The high bit rate TF is applied to the high MAC logical channel priority Radio Bearer. That is, the bit rate of TF used in user RAB#1 should be the same as that used in user RAB#0. Note: UE and SS timing issues may produe a slightly biased result.

Note: Measurements shall be taken over the 5th to 35th RLC PDUs received.

Itteration2:

The high bit rate TF is applied to the high MAC logical channel priority Radio Bearer. That is, the bit rate of TF used in RB4 user RAB#1 should be not less than that used in RB2 user RAB#0.

Note: Measurements shall be taken over the 5th to 35th RLC PDUs received.

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T1-020055

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020078

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 148** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

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

Title: ⌘	Changes to MAC conformance test 7.1.2.5 (incorrectly specified test)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use one of the following categories:
F (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: ⌘	Test is incorrectly specified on the following accounts: 1. PDCP test specified specified in SS setup does not use M_{max} because test RB does not use RACH. 2. M_{max} value of 0 is not allowed by RRC.
Summary of change: ⌘	1. Changed SS set up so that test RB uses RACH transport channel. Therefore M_{max} affects test. 2. Used values of 1 and 5 for M_{max}.
Consequences if not approved: ⌘	All UEs will fail the test.

Clauses affected: ⌘	7.1.2.5
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

How to create CRs using this form:

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.2.5 Control of RACH transmissions for FDD mode

7.1.2.5.1 Definition and applicability

All UE.

7.1.2.5.2 Conformance requirement

MAC receives the following RACH transmission control parameters from RRC with the CMAC-Config-REQ primitive: maximum number of preamble ramping cycles Mmax.

When preamble transmission counter M larger than Mmax, then the procedure will stop and enter Error handling procedure.

Reference(s)

TS 25.321 11.2.2, TS 25.321 figure 11.2.2.1.

7.1.2.5.3 Test purpose

To verify that the MAC entity controls RACH transmission correctly.

7.1.2.5.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

- SS broadcast System Information 5 with Mmax in RACH transmission parameters set as 0.

User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.

- The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.2.2.1 (CS UE) or 7.2.2.2 (PS UE) so that the UE shall be in idle mode and registered.

~~The UE is in Connected mode and a connection is established as described in the TS 34.123-1, clause 7.3 PDCP testing, clause "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1).~~

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

a) Transmission of the default system information messages specified in TS 34.108, clause 6.1 is modified such that:

The dynamic persistence level (N) defined in SIB7 is set to 1, and the persistence scaling factors (s_x) defined in SIB5 are not broadcast. Note: these values should result in an attempted RACH transmission at every persistence check

The RACH transmission parameter M_{max} defined in SIB5 is set to 1.

The counter N300 broadcast in SIB1 is set to 1.

b) The SS pages the UE for a RRC CONNECTION REQUEST.

c) The SS waits for a RACH preamble transmission on AICH, and does not respond to the RACH preamble transmission on AICH. This step shall be repeated M_{max} times.

d) The SS checks for 100ms that no further RACH preamble transmissions are received.

The above procedure is repeated with M_{max} set to 5.

a) The SS configures its RLC entity for "Transparent Mode".

b) The SS sends certain DATA BLOCKS.

c) The SS shall not receive any LOOP BACK DATA BLOCKS within 30 s.

Expected sequence:

Step	Direction		Message	Comments
	UE	SS		
1				SS sends CMAC_MAC_HEADER_REQ with disable_mac_header and CRLC_CONFIG_REQ with RLC mode as "Transparent mode".
2	←		DATA BLOCKS	
3				SS shall not receive returned data blocks within 30s.
4				SS sends CMAC_MAC_HEADER_REQ with enable_mac_header and CRLC_CONFIG_REQ with RLC mode as "AM mode".

Step	Direction		Message	Comments
	UE	SS		
1	←		System information	Modified SIB5, SIB7
2	←		PAGING	
3	→		RACH preamble	Repeated M_{max} times.

7.1.2.5.5 Test requirements

~~The SS does not receive loop back data blocks from UE when M_{max} set as 0.~~ The SS shall receive 1 RACH preamble from the UE when $M_{max} = 1$.

The SS shall receive 5 RACH preambles from the UE when $M_{max} = 5$.

3GPP TSG- T1 Meeting #14   *T1-020054*
Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

3GPP TSG–T1/SIG Meeting #21   *Tdoc T1S-020077*
Sophia Antipolis, France, 18-20 February 2002

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CHANGE REQUEST

| | ⌘ | **34.123-1** **CR** **147** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

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

Title: ⌘	Changes to MAC conformance test 7.1.2.4 (Access service class selection …)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

<table>
<tr><td>Use <u>one</u> of the following categories:
    F (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.</td>
<td>Use <u>one</u> 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)</td></tr>
</table>

Reason for change: ⌘	1. Clause number 7.1.2.4 is duplicated 2. The user RAB specified in TS 34.123-1, clause 7.3 PDCP testing, clause "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1) uses DCH not RACH as uplink transport channel. – ASC is not used on DCH and therefore cannot be tested with this RAB configuration. 3. It may not be possible to filter transport blocks by setting uplink ASC at the SS.
Summary of change: ⌘	1. Clause number for "Access service class selection" tets case is changed from 7.1.2.4 to 7.1.2.4a. 2. Changed user RAB to one that uses RACH TrCH. 3. Changed test so that it's not necessary to set upink ASC at SS.
Consequences if not approved: ⌘	Working UEs will fail this test.

Clauses affected: ⌘	7.1.2.4
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

How to create CRs using this form:

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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.

7.1.2.4a Access Service class selection for RACH transmission

7.1.2.4a.1 Definition and applicability

All UE.

7.1.2.4a.2 Conformance requirement

The following ASC selection scheme shall be applied, where NumASC is the highest available ASC number and MinMLP the highest logical channel priority assigned to one logical channel:

- In case all TBs in the TB set have the same MLP, select ASC=min(NumASC, MLP).

- In case TBs in a TB set have different priority, determine the highest priority level MinMLP and select ASC=min(NumASC, MinMLP).

Reference(s)

TS 25.321 clause 11.2.1.

7.1.2.4a.3 Test purpose

To verify that MAC ~~selection~~ selects ASC correctly.

7.1.2.4a.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.

- The Test-USIM shall be inserted

    The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

    1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

    2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

    The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-2 (CS-CELL_FACH_INITIAL) with the following exception:

        1. The MAC Logical Priority (MLP) of the user RAB is set to 8.

The user RAB is placed into loop-back mode 1 each with the UL SDU size set to 39 bytes

~~The UE is in Connected mode and a connection is established as described in the TS 34.123-1, clause 7.3 PDCP testing, clause "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1).~~

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

Test procedure

   a) The SS receives the PAGING RESPONSE message from the UE and checks the access slots and preamble signatures used correspond to a valid ASC as tranmsmitted in system information.

   b) The SS reconfigures the transmitted system information as follows:

      Only one ASC setting (ASC#0) is defined (with default parameters).

      The available sub-channel number defined in system information is set to '0000 0000 0001'B Note: this value allows RACH transmission on sub-channel 0 only.

     The SS then waits enough time for the UE to take the system information change into account.

   c) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.

   d) The SS waits to receive uplink data on RACH TrCH via the user RAB, then checks that the access slots and preamble signatures used correspond to ASC#0.

   e) The SS reconfigures the transmitted system information as follows:

      Four ASC settings (ASC#0 to ASC#3) are defined (with default parameters), except that the parameter assigned sub channel number is set as follows:

         ASC#0   Assigned sub channel number = '0000'B

         ASC#1   Assigned sub channel number = '0001'B

         ASC#2   Assigned sub channel number = '0000'B

         ASC#3   Assigned sub channel number = '0010'B

      The available sub-channel number defined in system information is set to '0000 0000 0001'B Note: this value allows RACH transmission on sub-channel 0 only (ASC#1).

     The SS then waits enough time for the UE to take the system information change into account.

   f) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.

   g) The SS waits 2s to ensure no uplink data is received on RACH TrCH via the user RAB.

   h) The SS then reconfigures the uplink user RAB to have a MAC Logical Priority of 1.

   i) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.

   j) The SS waits to receive uplink data on RACH TrCH via the user RAB, then checks that the access slots and preamble signatures used correspond to ASC#1.

   k) The SS may optionally release the radio bearer.

   ~~a) The SS configures its RLC entity for"Transparent Mode".~~

   ~~b) The MAC entity in the SS side is configured with ASC as 4.~~

   ~~c) The SS sends certain data blocks to UE.~~

   ~~d) After having received the data block via configured mapped channels, the UE forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its MAC configuration to the SS.~~

   ~~e) The SS receives the returned data blocks from the UE.~~

   ~~f) The MAC entity in SS side was reconfigured with ASC as any other data than 4.~~

   ~~g) The SS sends the next data blocks to UE.~~

   ~~h) The SS doesn't receive any data blocks from the UE within 30 s.~~

   ~~i) The SS configures its RLC entity for AM mode".~~

j) The SS sends RADIO BEARER RELEASE message to UE.

k) The UE sends RADIO BEARER RELEASE COMPLETE message to SS.

l) The procedure from a to n was repeated 3 times with MAC logical priority set as 3, 2, 1 and configure the ASC in system simulator as 3, 2, 1 accordingly.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	→		PAGING RESPONSE	SS checks ASC parameters
2	←			Modified system information
3	←		RLC PDU	
4	→		RLC PDU	SS checks ASC parameters (ASC#0)
5	←			Modified system information
6	←		RLC PDU	
6a				SS waits to check no RLC PDUs are received
7	↔		RB RECONFIGURATION	User RAB MLP = 1
8	←		RLC PDU	
9	→		RLC PDU	SS checks ASC parameters (ASC#1)
10	↔		RB RELEASE	optional
1				SS sends CMAC_MAC_HEADER_REQ with disable_mac_header and CRLC_CONFIG_REQ with RLC mode as "Transparent mode".
2			CMAC_CONFIG-Req	SS sets the ASC as 4.
3	←		DATA BLOCKS	SS sends data blocks.
4	→		LOOP BACK DATA BLOCKS	SS shall receive the data block from UE.
5			CMAC_CONFIG-Req	SS sets the ASC as other value than 4.
6	←		DATA BLOCKS	SS sends data blocks.
7	→		LOOP BACK DATA BLOCKS	SS shall not receive the loop back data blocks from UE in 30s.
8				SS sends CMAC_MAC_HEADER_REQ with enable_mac_header and CRLC_CONFIG_REQ with RLC mode as "AM mode".
9			Repeat Step 1 to step 8 shall be repeated 3 times with MAC Priority set as 3, 2, 1 and the ASC of SS set as 3, 2, 1 accordingly	

7.1.2.4a.5 Test requirements

When the ASC in SS side match with the MAC priority, SS can receive the loop back data blocks, otherwise, The SS can't receive the loop back data blocks. This requirement applies to the different MAC priority.

In step 1, the access slots and preamble signatures used on the PRACH TrCH on which the PAGING RESPONSE message was received shall correspond to configured legal values for the allowed ASCs on the PRACH.

In step 4, the access slots and preamble signatures used on the PRACH TrCH on which the RLC PDU was received shall correspond to configured legal values for the allowed ASC#0.

In step 6a, no PDUs shall be received on PRACH.

In step 9, the access slots and preamble signatures used on the PRACH TrCH on which the RLC PDU was received shall correspond to configured legal values for the allowed ASC#1.

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 146** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

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

Title: ⌘	Changes to MAC conformance test 7.1.2.2.1 (Modify illegal test)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	***Date:*** ⌘ 2002-02-15
Category: ⌘ **F**		***Release:*** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	Contrary to the purpose of the test, according to the informative figure 11.2.2.1 in 25.321 clause 11.2.2, it is possible to have a dynamic persistence value of 0 and still expect a RACH transmission. In addition, according to 25.331, the lowest value of dyamic persistence value currently possible is 0.0015625 (not 0), using a value of 8 for the dynamic persistence level and 0.2 for the scaling factor.
Summary of change: ⌘	Modified test such that dynamic persistence algorithm can be measured, using valid parameters. Modified text "CHANNEL REQUEST" to "RRC CONNECTION REQUEST".
Consequences if not approved: ⌘	Test is not a valid test.

Clauses affected: ⌘	7.1.2.2.1
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.2.2.1 Correct application of Dynamic Persistence (FDD)

7.1.2.2.1.1 Definition and applicability

All FDD UE.

7.1.2.2.1.2 Conformance requirement

The UE implements the dynamic persistence algorithm by:

1. reading the current dynamic persistence value from the BCH;

2. perform a random draw against the current dynamic persistence value. The random function is TBD;

3. defer transmission for one frame and repeat the process if the result of the random draw is negative, otherwise proceed with a RRC CONNECTION REQUEST~~CHANNEL REQUEST~~.

Reference(s)

TS ~~25.214 clause 6.~~25.321, clause 11.2.2 (figure 11.2.2.1)

7.1.2.2.1.3 Test purpose

To verify that if the ~~dynamic persistence value in the last appropriate message on the BCH is set to zero, the UE will not attempt a RACH access~~UE correctly operates the dynamic persistence algorithm outlined in fig 11.2.2.1 of TS25.321.

7.1.2.2.1.4 Method of test

Initial conditions

System Simulator:

   1 cell, default parameters, Ciphering Off.

~~The SS will be transmitting BCCH messages with the dynamic persistence value set to zero.~~

User Equipment:

   The UE shall operate under normal test conditions, Ciphering Off.

   The Test-USIM shall be inserted.

~~The UE shall be attached to the network and in idle mode.~~

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

Itteration 1

   a) The SS changes the default system information messages such that the dynamic persistence level is set to 8, and scaling factors are not transmitted. This results in a dynamic persistence value (P_i) of 0.0078125 for all access service classes. Note: ASC#0 is not used because NumASC=7 and the lowest MLP value =1. - See 25.321, clause 11.2.1.

b) The SS waits until the UE has enough time to take account of the changes.

ac) The SS repeatedly pages the UE ~~for T₂₂ seconds~~100 times, waiting for the reception of a RRC CONNECTION REQUEST from the UE before each subsequent page.

~~b) The SS monitors the RACH for a CHANNEL REQUEST message from the UE.~~

Itteration 2

The SS performs step a to c) once more, but changes the default system information messages such that the dynamic persistence level is set to 1, and no scaling factors are transmitted. This results in a dynamic persistence value (P_i) of 1 for all access service classes.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		PAGE	
2	→		RRC CONNECTION REQUEST ~~Wait for T = ??~~	

The above sequence is repeated 100 times.

7.1.2.2.5 Test requirements

Itteration 1

The SS shall receive a RRC CONNECTION REQUEST from the UE on averge every 1.28 seconds ±0.15s after each paging request.

Itteration 2

The SS shall receive a RRC CONNECTION REQUEST from the UE wihin 150ms after each paging request.

~~The SS should not detect any access on the RACH.~~

3GPP TSG- T1 Meeting #14   *T1-020052*
Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

3GPP TSG–T1/SIG Meeting #21   *Tdoc T1S-020075*
Sophia Antipolis, France, 18-20 February 2002

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 145** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to MAC conformance test 7.1.1.8 (use Missing PDU Indicator instead of Timer_Status_Periodic)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**	*Use one of the following categories:* **F** *(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.	**Release:** ⌘ REL-4 *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: ⌘	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing. 2. Editorial changes
Summary of change: ⌘	1. Removed use of Timer_Status_Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate. 2. Changed wording in step b). 3. Precaution. - Increased Tx/Rx window size to allow test to execute as specified; without need for MRW procedure.
Consequences if not approved: ⌘	1. Working UEs will fail the test.

Clauses affected: ⌘	7.1.1.8
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

7.1.1.8 DTCH or DCCH mapped to DCH / Invalid C/T Field

7.1.1.8.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the ~~RACH/FACH~~DCH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.8.2 Conformance requirement

DTCH or DCCH mapped to DCH, no multiplexing of dedicated channels on MAC: -no MAC header is required.

DTCH or DCCH mapped to DCH, with multiplexing of dedicated channels on MAC: -C/T field is included in MAC header.

The following fields are defined for the MAC header:

- C/T field
  The C/T field provides identification of the logical channel instance when multiple logical channels are carried on the same transport channel…

Structure of the C/T field

C/T field	Designation
0000	Logical channel 1
0001	Logical channel 2
...	...
1110	Logical channel 15
1111	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 b).

7.1.1.8.3 Test purpose

1. To verify that the UE discards PDUs with reserved or incorrect values in C/T field.

2. To verify that the C/T field is correctly applied when a DTCH or DCCH is mapped to a DCH.

7.1.1.8.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

The DCH/DPCH is configured as specified in TS 34.108 clause 6.10.2.4.1.2: Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH) with the following exception:

Higher layer	RAB/signalling RB		RB#3 (SRB#3)
	User of Radio Bearer		NAS_DT High prio
RLC	Logical channel type		DCCH
	RLC mode		TM
	Payload sizes, bit		148
	Max data rate, bps		3700
	RLC header, bit		0
MAC	MAC header, bit		0 (note)
	MAC multiplexing		Simulated by SS
Layer 1	TrCH type		DCH
	TB sizes, bit		148
	TFS	TF0, bits	0 x 148
		TF1, bits	1 x 148
	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
	RM attribute		155-165
NOTE:	The SS MAC layer must be configured not to add a MAC header so that the header can be added by the test case in order to create the necessary invalid values.		

The TFCS should be configured as specified in clause 6.10.2.4.1.2.1.1.2.

User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-1 (CS-CELL_DCH_INITIAL). During this procedure the RRC CONNECTION SETUP message shall allocate a DCH to carry the signalling radio bearers as follows:

1. The DCH/DPCH is configured as specified in TS 34.108 clause 6.10.2.4.1.2: Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH) with the following exception:

    1.1 The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling has Missing PDU Indicator enabled~~Timer_Status_Periodic enabled, with a period of 300 ms~~.

    1.2 The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling, has Transmission window size set to 128, and has Receive window size set to 128.

Test procedure

a) The SS receives the PAGING RESPONSE message from the UE and checks the C/T field.

b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message ~~will~~ shall be segmented into 128-bit P~~D~~Us, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
C/T	0100'B

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct C/T value for AM-DCCH NAS High Priority of 0010'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

~~c~~d) The SS receives a STATUS PDU on SRB #3 AM RLC on the DCH due to detection of missing PDUs~~expiry of Timer_Status_Periodic~~.

~~d~~e) The SS repeats steps b) c) and ~~c~~d), with the C/T field set as follows:

Iteration	C/T Value
2	1111'B

~~e) The SS repeats steps b) and c), with the C/T field set to the Logical Channel ID for SRB #3 (AM-DCCH NAS High Priority): 0010'B.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	→		PAGING RESPONSE	Check C/T field
2		←	MAC PDU(C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T = 0100'B, or 1111'B
		←	MAC PDU(C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T = 0100'B, or 1111'B
			…	
		←	MAC PDU(C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect C/T = 0100'B, or 1111'B
~~3~~	~~→~~		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~4~~		~~←~~	~~MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))~~	~~Sent with incorrect C/T 1111'B~~
		~~←~~	~~MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))~~	~~Sent with incorrect C/T 1111'B~~
			~~…~~	
		~~←~~	~~MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))~~	~~Sent with incorrect C/T 1111'B~~
~~5~~	~~→~~		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~6~~3		←	MAC PDU(C/T, RLC AM PDU(SN=x+n+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct C/T = 0010'B
		←	MAC PDU(C/T, RLC AM PDU(SN=x+n+2, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct C/T = 0010'B
			…	
		←	MAC PDU(C/T, RLC AM PDU(SN=x+n+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct C/T = 0010'B
~~7~~4	→		RLC-STATUS-PDU	NAK PDUs with SN = x to x+n~~ACK above PDUs~~
~~8~~5	→		AUTHENTICATION RESPONSE	C/T Field is recognised as correct for the DCCH

Specific Message Contents

None

7.1.1.8.5 Test Requirement

In step a) the C/T field should be set to the Logical Channel ID for SRB #3 (0010'B). Note that this may be implied frrom receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ~~e~~d) the UE ~~should~~ shall transmit a STATUS PDU on the RLC AM entity associated with SRB #3 each time the first PDU with C/T=0010'B is received in step c)~~Timer_Status_Periodic expires~~, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE message~~On the final iteration the UE should respond with an AUTHENTICATION RESPONSE message.~~

3GPP TSG- T1 Meeting #14 *T1-020051*
Sophia Antipolis, France, 21th-22th February 2002

3GPP TSG–T1/SIG Meeting #21 *Tdoc T1S-020074*
Sophia Antipolis, France, 18-20 February 2002

CR-Form-v4	

CHANGE REQUEST

⌘	**34.123-1** CR **144**	⌘ ev	**-**	⌘	Current version:	**4.1.0**	⌘

*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: ⌘	Changes to MAC conformance test 7.1.1.5 (use Missing PDU Indicator instead of Timer_Status_Periodic)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use <u>one</u> of the following categories:
   F *(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 <u>one</u> 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: ⌘	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing. 2. Editorial changes
Summary of change: ⌘	1. Removed use of Timer_Status_Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate. 2. Changed wording in step b).
Consequences if not approved: ⌘	1. Working UEs will fail the test.

Clauses affected: ⌘	7.1.1.5
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

7.1.1.5 DTCH or DCCH mapped to RACH/FACH / Incorrect UE ID

7.1.1.5.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.5.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- UE-Id
  The UE-Id field provides an identifier of the UE on common transport channels…

Lengths of UE Id field

UE Id type	Length of UE Id field
U-RNTI	32 bits
C-RNTI	16 bits

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

7.1.1.5.3 Test purpose

1. To verify that the UE ignores PDUs with UE-Ids that do not match the Id allocated to it.

2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.5.4 Method of test

Initial conditions

System Simulator:

See clause 7.1.1.2.4.

User Equipment:

See clause 7.1.1.2.4.

Test procedure

a) The SS receives the PAGING RESPONSE message from the UE and checks the UE-Id field.

b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message ~~will~~ shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	11'B
UE ID Type	C-RNTI
UE ID	Address allocated in RRC CONNECTION SETUP message + 1.
C/T	Logical Channel ID for SRB #4 3 (AM-DCCH NAS High Priority): 0010'B

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct UE-Id value of the address allocated in the RRC CONNECTION SETUP message. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

cd) The SS receives a STATUS PDU on SRB #4 3 AM RLC on the RACH due to detection of missing PDUsexpiry of Timer_Status_Periodic.

d) The SS repeats steps b) and c), with the UE-Id field set to the address allocated in RRC CONNECTION SETUP message.

Expected sequence

Step	Direction UE	Direction SS	Message	Comments
1		→	PAGING RESPONSE	Check UE-Id
2		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect UE-Id = C-RNTI+1
		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect UE-Id = C-RNTI+1
			…	
		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect UE-Id = C-RNTI+1
3	→		RLC-STATUS-PDU	NAK above PDUs
43		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct UE-Id = C-RNTI
		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+2, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct UE-Id = C-RNTI
			…	
		←	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct UE-Id = C-RNTI
54	→		RLC-STATUS-PDU	NAK PDUs with SN = x to x+nACK above PDUs
65	→		AUTHENTICATION RESPONSE	UE-Id is recognised as correct for the UE

Specific Message Contents

None

7.1.1.5.5 Test Requirement

In step a) the UE-Id field should be set to the C-RNTI allocated in the RRC CONNECTION SETUP message. Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

~~On the first iteration i~~In step ~~c~~d) the UE ~~should~~ shall transmit a STATUS PDU on the RLC AM entity associated with SRB #~~4~~3 ~~each time~~when the first PDU with UE-Id = value of the address allocated in the RRC CONNECTION SETUP message, is received in step c)~~Timer_Status_Periodic expires~~, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of the expected sequence the SS shall receive an AUTHENTICATION RESPONSE message~~On the second iteration the UE should respond with an AUTHENTICATION RESPONSE message.~~

3GPP TSG- T1 Meeting #14 *T1-020050*
Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

3GPP TSG–T1/SIG Meeting #21 *Tdoc T1S-020073*
Sophia Antipolis, France, 18-20 February 2002

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CHANGE REQUEST

⌘	**34.123-1** CR **143**	⌘ ev	**-**	⌘ Current version:	**4.1.0**	⌘

*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: ⌘	Changes to MAC conformance test 7.1.1.4 (use Missing PDU Indicator instead of Timer_Status_Periodic)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing. 2. Editorial changes
Summary of change: ⌘	1. Removed use of Timer Status Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate. 2. Changed wording in step b).
Consequences if not approved: ⌘	1. Working UEs will fail the test.

Clauses affected: ⌘	7.1.1.4	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘	Affects R99 and REL-4	

7.1.1.4 DTCH or DCCH mapped to RACH/FACH / Invalid UE ID Type Field

7.1.1.4.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.4.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- UE-Id Type
  The UE-Id Type field is needed to ensure correct decoding of the UE-Id field in MAC Headers.

Table 9.2.1.7: UE-Id Type field definition

UE-Id Type field 2 bits	UE-Id Type
00	U-RNTI
01	C-RNTI
10	Reserved (PDUs with this coding will be discarded by this version of the protocol)
11	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

7.1.1.4.3 Test purpose

1. To verify that the UE discards PDUs with reserved values in UE-Id type field.

2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.4.4 Method of test

Initial conditions

System Simulator:

See clause 7.1.1.2.4.

User Equipment:

See clause 7.1.1.2.4.

Test procedure

a) The SS receives the PAGING RESPONSE message from the UE and checks the UE-Id Type field.

b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message ~~will~~ shall be segmented into 128-bit P~~D~~Us, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	11'B
UE ID Type	10'B
UE ID	As set in RRC CONNECTION SETUP message.
C/T	Logical Channel ID for SRB #~~4~~3 (AM-DCCH NAS High Priority): 0010'B

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct UE-Id type value for C-RNTI of 01'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

~~c~~d) The SS receives a STATUS PDU on SRB #~~4~~3 AM RLC on the RACH due to detection of missing PDUs~~expiry of Timer_Status_Periodic~~.

~~d~~e) The SS repeats steps b) c) and ~~c~~d), with the UE-Id type field set as follows:

Iteration	UE-Id type Value
2	11'B

~~e) The SS repeats steps b) and c), with the UE-Id type field set to indicate a C-RNTI: 01'B.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	→		PAGING RESPONSE	Check UE-Id Type
2	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect UE-Id Type = 10'B, or 11'B.
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect UE-Id Type = 10'B, or 11'B.
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect UE-Id Type = 10'B, or 11'B.
~~3~~	→		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~4~~	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))~~	~~Sent with incorrect UE-Id Type = 11'B~~
	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))~~	~~Sent with incorrect UE-Id Type = 11'B~~
			~~…~~	
	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))~~	~~Sent with incorrect UE-Id Type = 11'B~~
~~5~~	→		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~6~~3	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct UE-Id Type = 01'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+2, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct UE-Id Type = 01'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct UE-Id Type = 01'B
~~7~~4	→		RLC-STATUS-PDU	NAK PDUs with SN = x to x+n~~ACK above PDUs~~
~~8~~5	→		AUTHENTICATION RESPONSE	UE-Id is recognised as correct for the UE

Expected sequence is repeated for iteration 2.

Specific Message Contents

None

7.1.1.4.5 Test Requirement

In step a) the UE-Id Type field should be set to 01'B. Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ~~e~~d) the UE ~~should~~ shall transmit a STATUS PDU on the RLC AM entity associated with SRB #~~4~~3 each time the first PDU with UE-Id Type=01'B is received in step c)~~Timer_Status_Periodic expires~~, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE message~~On the final iteration the UE should respond with an AUTHENTICATION RESPONSE message~~.

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21ᵗʰ-22ᵗʰ February 2002

T1-020049

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020072

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1** CR **142** | ⌘ | rev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to MAC conformance test 7.1.1.3 (use Missing PDU Indicator instead of Timer_Status_Periodic)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘	**F**	**Release:** ⌘ REL-4

Use <u>one</u> of the following categories:
F *(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 <u>one</u> 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: ⌘	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing. 2. Editorial changes
Summary of change: ⌘	1. Removed use of Timer_Status_Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate. 2. Changed wording in step b).
Consequences if not approved: ⌘	1. Working UEs will fail the test.

Clauses affected: ⌘	7.1.1.3
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

7.1.1.3 DTCH or DCCH mapped to RACH/FACH / Invalid C/T Field

7.1.1.3.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.3.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- C/T field
  The C/T field provides identification of the logical channel instance when multiple logical channels are carried on the same transport channel…

Structure of the C/T field

C/T field	Designation
0000	Logical channel 1
0001	Logical channel 2
...	...
1110	Logical channel 15
1111	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

7.1.1.3.3 Test purpose

1. To verify that the UE discards PDUs with reserved or incorrect values in C/T field.

2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.3.4 Method of test

Initial conditions

System Simulator:

   See clause 7.1.1.2.4.

User Equipment:

   See clause 7.1.1.2.4.

Test procedure

   a) The SS receives the PAGING RESPONSE message from the UE and checks the C/T field.

   b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message ~~will~~ shall be segmented into 128-bit P~~D~~Us, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	11'B
UE ID Type	C-RNTI
UE ID	As set in RRC CONNECTION SETUP message.
C/T	0111'B

~~Where a TCTF size of 8 bits is used, 6 bits from the RLC payload shall be discarded.~~

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct C/T value for AM-DCCH NAS High Priority of 0010'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

~~c~~d) The SS receives a STATUS PDU on SRB #~~4~~3 AM RLC on the RACH due to detection of missing PDUs~~expiry of Timer_Status_Periodic~~.

~~d~~e) The SS repeats steps b) c) and ~~c~~d), with the C/T field set as follows:

Iteration	C/T Value
2	1111'B

~~e) The SS repeats steps b) and c), with the C/T field set to the Logical Channel ID for SRB #4 (AM-DCCH NAS High Priority): 0010'B.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	→		PAGING RESPONSE	Check C/T field
2	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T = 0111'B, or 1111'B.
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T = 0111'B, or 1111'B.
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect C/T = 0111'B, or 1111'B.
~~3~~	→		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~4~~	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))~~	~~Sent with incorrect C/T 1111'B~~
	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))~~	~~Sent with incorrect C/T 1111'B~~
			~~…~~	
	←		~~MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))~~	~~Sent with incorrect C/T 1111'B~~
~~5~~	→		~~RLC-STATUS-PDU~~	~~NAK above PDUs~~
~~6~~3	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct C/T = 0010'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+2, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct C/T = 0010'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct C/T = 0010'B
~~7~~4	→		RLC-STATUS-PDU	NAK PDUs with SN = x to x+n ~~ACK above PDUs~~
~~8~~5	→		AUTHENTICATION RESPONSE	C/T Field is recognised as correct for the DCCH

Expected sequence is repeated for iteration 2.

Specific Message Contents

None

7.1.1.3.5 Test Requirement

In step a) the C/T field should be set to the Logical Channel ID for SRB #4 (0010'B). Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ~~e~~d) the UE ~~should~~ shall transmit a STATUS PDU on the RLC AM entity associated with SRB #~~4~~3 each time the first PDU with C/T=0010'B is received in step c)~~Timer_Status_Periodic expires~~, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE message.~~On the final iteration the UE should respond with an AUTHENTICATION RESPONSE message~~.

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21th-22th February 2002

T1-020048

3GPP TSG–T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020071

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1 CR 141** | ⌘ ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to MAC conformance test 7.1.1.2 (use Missing PDU Indicator instead of Timer_Status_Periodic)	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘	**F**	**Release:** ⌘ REL-4
	Use one of the following categories: *F (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: ⌘	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing. 2. Editorial changes
Summary of change: ⌘	1. Removed use of Timer_Status_Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate. 2. Changed wording in step b). 3. Increased Tx/Rx window size to allow test to execute as specified; without need for MRW procedure.
Consequences if not approved: ⌘	1. Working UEs will fail the test.

Clauses affected: ⌘	7.1.1.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99 & REL-4

7.1.1.2 DTCH or DCCH mapped to RACH/FACH / Invalid TCTF

7.1.1.2.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.2.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- Target Channel Type Field
  …

Coding of the Target Channel Type Field on FACH for FDD

TCTF	Designation
00	BCCH
01000000	CCCH
01000001-01111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
10000000	CTCH
10000001-10111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
11	DCCH or DTCH over FACH

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

7.1.1.2.3 Test purpose

1. To verify that the UE discards PDUs with reserved or incorrect values in the TCTF field.

2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters, Ciphering Off.

The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH) with the following exceptions for the FACH:

Higher layer	RAB/signalling RB		RB#3 (SRB#3)
	User of Radio Bearer		Test
RLC	Logical channel type		DCCH
	RLC mode		TM
	Payload sizes, bit		168
	Max data rate, bps		33600 (alt. 50400)33600)
	RLC header, bit		0
MAC	MAC header, bit		0 (note)
	MAC multiplexing		Simulated by SS
Layer 1	TrCH type		FACH
	TB sizes, bit		168
	TFS	TF0, bits	0 x 168
		TF1, bits	1 x 168
		TF2, bits	2 x 168
		TF3, bits	N/A (alt. 3 x 168)
	TTI, ms		10
	Coding type		CC ½
	CRC, bit		16
	Max number of bits/TTI before rate matching		752 (alt. 1136)
	RM attribute		200-240
NOTE:	The SS MAC layer must be configured not to add a MAC header so that the header can be added by the test case in order to create the necessary invalid values.		

and using the configuration in TS 34.108 clause 6.10.2.4.3.3 for the PCH.

The TFCS should be configured as specified in clause 6.10.2.4.3.3.1.4.

User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-2 (CS-CELL_FACH_INITIAL) with the following exception:

1. The RLC entity for RB#3 (SRB#43), AM DCCH for high priority NAS signalling has Timer_Status_Periodic enabled, with a period of 300msMissing PDU Indicator enabled.

2. The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling, has Transmission window size set to 128, and has Receive window size set to 128.

Test procedure

a) The SS receives the PAGING RESPONSE message from the UE and checks the TCTF field.

b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	00'B
UE ID Type	C-RNTI
UE ID	As set in RRC CONNECTION SETUP message.
C/T	Logical Channel ID for SRB #4 3 (AM-DCCH NAS High Priority)

Where a TCTF size of 8-bits is used, 6-bits from the RLC payload shall be discarded.

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct TCTF of 11'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

c<u>d</u>) The SS receives a STATUS PDU on SRB #4 3 AM RLC on the RACH due to ~~expiry of Timer_Status_Periodic~~detection of missing PDUs.

d<u>e</u>) The SS repeats steps b), c), and c<u>d</u>), with the TCTF field set as follows:

Iteration	TCTF Value
2	01000000'B
3	01000001'B
4	10000000'B
5	10000001'B

~~e) The SS repeats steps b) and c), with the TCTF field set as to 11'B.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	→		PAGING RESPONSE	Check TCTF
2	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 00'B, 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B,
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 00'B, 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B,
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 00'B, 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B,
3	→		RLC-STATUS-PDU	NAK above PDUs
4	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 0100 0000'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 0100 0000'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 0100 0000'B
5	→		RLC-STATUS-PDU	NAK above PDUs
6	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 0100 0001'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 0100 0001'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 0100 0001'B
7	→		RLC-STATUS-PDU	NAK above PDUs
8	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 1000 0000'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 1000 0000'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 1000 0000'B
9	→		RLC-STATUS-PDU	NAK above PDUs
10	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 1000 0001'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 1000 0001'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 1000 0001'B
11	→		RLC-STATUS-PDU	NAK above PDUs

Step	Direction		Message	Comments
	UE	SS		
~~12~~3	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct TCTF = 11'B
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+2, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct TCTF = 11'B
			…	
	←		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct TCTF = 11'B
~~13~~4	→		RLC-STATUS-PDU	NAK PDUs with SN = x to x+n~~ACK above PDUs~~
~~14~~5	→		AUTHENTICATION RESPONSE	TCTF Field is recognised as correct for the DCCH

Expected sequence is repeated for iterations 2 to 5.

Specific Message Contents

None

7.1.1.2.5 Test Requirement

In step a) the TCTF field should have the value 00'B. Note that this may be implied fr~~r~~om receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ~~e~~d) the UE ~~should~~ shall transmit a STATUS PDU on the RLC AM entity associated with SRB #~~4~~3 each time ~~Timer_Status_Periodic expires~~the first PDU with TCTF=11'B is received in step c), negatively acknowledging the PDUs transmitted in step b) as missing.

~~On the final iteration~~At the end of each expected sequence the ~~UE should respond with~~SS shall receive an AUTHENTICATION RESPONSE message.

CR-Form-v4

CHANGE REQUEST

| ⌘ | **34.123-1** CR **140** | ⌘ | ev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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: ⌘	Changes to MAC conformance test 7.1.1.1	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	**Date:** ⌘ 2002-02-15
Category: ⌘ **F**		**Release:** ⌘ REL-4

Use <u>one</u> of the following categories:
F (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 <u>one</u> 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: ⌘	Incorrect TCTF used for DCCH or DTCH over FACH.
Summary of change: ⌘	Used correct TCTF of 11'B instead of padded TCTF 11000000'B
Consequences if not approved: ⌘	Use of padded TCTF may restrict test implementation.

Clauses affected: ⌘	7.1.1.1
Other specs affected: ⌘	☐ Other core specifications ⌘
	☐ Test specifications
	☐ O&M Specifications
Other comments: ⌘	Affects R99 and REL-4

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

7.1.1.1 CCCH mapped to RACH/FACH / Invalid TCTF

7.1.1.1.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.1.2 Conformance requirement

CCCH mapped to RACH/FACH:

- TCTF field is included in MAC header.

TCTF	MAC SDU

The following fields are defined for the MAC header:

- Target Channel Type Field

 …

Coding of the Target Channel Type Field on FACH for FDD

TCTF	Designation
00	BCCH
01000000	CCCH
01000001-01111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
10000000	CTCH
10000001-10111111	Reserved (PDUs with this coding will be discarded by this version of the protocol)
11	DCCH or DTCH over FACH

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.4.

7.1.1.1.3 Test purpose

1. To verify that the UE discards PDUs with reserved or incorrect values in the TCTF field.

2. To verify that the TCTF field is correctly applied when a CCCH is mapped to the RACH/FACH.

7.1.1.1.4 Method of test

Initial conditions

System Simulator:

 1 cell, default parameters, Ciphering Off.

 The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH) with the following exceptions for the FACH:

Higher layer	RAB/signalling RB		SRB#1
	User of Radio Bearer		Test
RLC	Logical channel type		CCCH
	RLC mode		TM
	Payload sizes, bit		168
	Max data rate, bps		33600 (alt. 50400)33600)
	RLC header, bit		0
MAC	MAC header, bit		0 (note)
	MAC multiplexing		Simulated by SS
Layer 1	TrCH type		FACH
	TB sizes, bit		168
	TFS	TF0, bits	0 x 168
		TF1, bits	1 x 168
		TF2, bits	2 x 168
		TF3, bits	N/A (alt. 3 x 168)
	TTI, ms		10
	Coding type		CC 1/2
	CRC, bit		16
	Max number of bits/TTI before rate matching		752 (alt. 1136)
	RM attribute		200-240
NOTE:	The SS MAC layer must be configured not to add a MAC header so that the header can be added by the test case in order to create the necessary invalid values.		

And using the configuration in TS 34.108 clause 6.10.2.4.3.3 for the PCH.

The TFCS should be configured as specified in clause 6.10.2.4.3.3.1.4.

User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.2.2.1 (CS UE) or 7.2.2.2 (PS UE) so that the UE shall be in idle mode and registered.

Test procedure

a) The SS pages the UE.

b) The SS waits for the first RRC CONNECTION REQUEST message to arrive on the PRACH/CCCH.

c) The SS responds with an RRC CONNECTION SETUP message (specified in TS 34.108 cclause 9: Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH). In this case the SS will transmit the message in 152 bit (note) segments, with a valid UM RRC RLC header and with the MAC header set as follows:

Field	Value
TCTF	00'B

NOTE: In the case of a 2-bit MAC header the segment shall be padded to the correct length.

d) The SS waits for retransmission of the RRC CONNECTION REQUEST on the PRACH/CCCH due to expiry of timer T300.

e) The SS repeats steps c) and d), with the TCTF field set as follows:

Iteration	TCTF Value
2	01000001'B
3	10000000'B
4	10000001'B
5	11~~000000~~'B

f) The SS repeats steps c) and d), with the TCTF field set as to 01000000'B.

Expected sequence

Step	Direction		Message	Comments
	UE	**SS**		
1		←	PAGING TYPE 1	
2	→		RRC CONNECTION REQUEST	
3		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 00'B
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 00'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = 00'B
4	→		RRC CONNECTION REQUEST	
5		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 0100 0001'B
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 0100 0001'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = 0100 0001'B
6	→		RRC CONNECTION REQUEST	
7		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 1000 0000'B
		←	MAC PDU(TCTF, UE-ID, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 1000 0000'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = 1000 0000'B
8	→		RRC CONNECTION REQUEST	
9		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 1000 0001'B
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 1000 0001'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = 1000 0001'B
10	→		RRC CONNECTION REQUEST	
11		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 11~~00 0000~~'B
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = ~~1100 0000~~'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = ~~1100 0000~~'B
12	→		RRC CONNECTION REQUEST	
13		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with correct TCTF = 0100 0000'B
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with correct TCTF = 0100 0000'B
			…	
		←	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with correct TCTF = 0100 0000'B
14	→		RRC CONNECTION SETUP COMPLETE	TCTF Field is recognised as correct for the CCCH

Specific Message Contents

None.

7.1.1.1.5 Test Requirement

On the first iteration, and on each iteration in step e) the UE should not recognise the RRC CONNECTION SETUP message and therefore should retransmit the RRC CONNECTION REQUEST after each expiry of T300 (the UE should send up to N300=7 RRC CONNECTION REQUESTs before abandoning the procedure).

On the final iteration the UE should respond with an RRC CONNECTION SETUP COMPLETE message.

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21st –22nd February 2002

T1-020045

3GPP TSG- T1 SIG Meeting #21
Sophia Antipolis, France, 18th-20th February 2002

T1S-020018r2

CR-Form-v6.1

CHANGE REQUEST

| ⌘ | **TS 34.123-1** | **CR** | **137** | | ⌘**rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

Spec Title: User Equipment (UE) conformance specification; ⌘

Part 1: Protocol conformance specification

*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:	⌘	Corrections to Measurement test cases
Source:	⌘	MCI, Siemens, Motorola

Work item code: ⌘	TEI		***Date:*** ⌘	19th February 2002

Category:	⌘	**F**	***Release:*** ⌘	REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(correction)*	*2 (GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96 (Release 1996)*
B *(addition of feature),*	*R97 (Release 1997)*
C *(functional modification of feature)*	*R98 (Release 1998)*
D *(editorial modification)*	*R99 (Release 1999)*
Detailed explanations of the above categories can	*REL-4 (Release 4)*
be found in 3GPP TR 21.900.	*REL-5 (Release 5)*

Reason for change:	⌘	The use of DPCH₁, DPCH₂ and OCNS are not longer needed.

DL TX power of the SS is defined as CPICH_Ec instead of CPICH_RSCP which is the power received by the UE.

Editorial corrections.

Revision 2 includes corrections from Motorola and Siemens and the corrections are highlighted in blue.

(from Motorola)

Test purpose of test cases 8.4.1.11, 8.4.1.12 and 8.4.1.13 is to confirm that the UE sends PHYSICAL CHANNEL FAILURE message with the IE "Failure cause" set to "compressed mode runtime error", if it detects a runtime error due to overlapping compressed mode configuration. In these test cases two transmission gap pattern sequences are activated with same measurement purpose "FDD Measurement", according to the IE "TGMP". However as per clause 8.6.6.15 of TS 25.331 (v 3.7.0), the UE will not activate second transmission gap pattern sequence with same measurement purpose, according to the IE "TGMP", if one is already active. In this case the UE will send failure message with cause "Invalid configuration".

As per clause 8.6.7.1 of TS 25.331 (v 3.7.0), the UE will send MEASREMENT CONTROL FAILURE message with failure cause "Configuration incomplete", if the validity of Traffic volume measurement is set to "All states" but the IE "Traffic volume

	measurement object" has not been included in measurement control information

Summary of change: ⌘	General
	
	• Clause 8.4 to describe the use of DPCH$_1$, DPCH$_2$ and OCNS are removed.
	
	• In all tables 8.4.1.X-1, all entries labeled CPICH RSCP are revised to CPICH Ec since these tables specify the DL TX power configured by SS, instead of the Rx power received by UE. All values are revised to be consistent with clause 8.1, 8.2 and 8.3.
	
	• In clauses 8.4.1.5 to 8.4.1.8, the initial conditions of the UE are revised to start from CELL_DCH or CELL_FACH state detailed in TS 34.108 clause 7.4. This is done to avoid the necessity of having to describe NAS test steps in the respective test cases. The affected test steps and messages in specific message content sub-clauses are revised and deleted.
	
	• All conformance requirement and test purpose sub-clauses are revised to make the descriptions closer to what are described in the core specifications.
	
	• For all occurrences, the values of IE "intra-frequency cell id" or IE "inter-frequency cell id" in the specific message content sub-clauses are revised. The values of these IE are revised from "Set to id of cell *X*" to "*X*".
	
	• CPICH_Ec should have the unit of dBm/3.84MHz.
	
	Clause 8.4.1.1
	
	• Specific message contents
	
	    1. SIB 11 (Step 1): IE "Intra-frequency measurement for RACH" and IE "Maximum number of reported cells on RACH" are set to "Not Present" since reporting on RACH are not required.
	
	    2. SIB 11 (Step 1): IE "Measurement reporting mode" is missing and proposed to be added.
	
	    3. MEASUREMENT CONTROL (Step 7): "Measurement identity" IE should have value "1".
	
	    4. MEASUREMENT REPORT (Step 10): "Measurement identity" IE should be set to "1" by the UE, following the proposed modifications in point 3 above. IE "Additional measured results" should be checked to be absent.
	
	• Test requirement
	
	    1. The second requirement statement is revised to identify which MEASUREMENT CONTROL message it refers to.
	
	    2. The third requirement state is revised to specify that UE shall also include "Event results" in MEASUREMENT REPORT messages.
	
	(from Siemens)
	
	Step 11 to 14 are added to include measurement event 1b.
	
	Clause 8.4.1.2
	
	• Expected Sequence
	
	    1. Step 1: Changes to RRC CONNECTION SETUP message are explicitly stated.
	
	• Specific message contents

1. SIB 11 (Step 1): IE "Inter-frequency measurement identity" is deleted – it has been removed in the core specifications.

2. MEASUREMENT CONTROL (Step 9 and Step 11): IE "Frequency quality estimate" is set to "FALSE". The misaligned rows are re-adjusted.

3. MEASUREMENT REPORT (Step 10 and Step 12): IE "Additional measured results" should be checked that it is absent.

Clause 8.4.1.3

- Reference

  1. Reference to clause 8.4.1.7 of TS 25.331 v370 is added.

- Test Procedure

  1. UTRA RF Channel Number for Cell 2 should be "Ch. 1" instead of "Ch. 2" according to clause 6.1 of TS 34.108.

  2. Reporting interval after step 10 is change to 16 seconds.

- Specific message contents

  1. SIB 11 (Step 1): IE "CHOICE reporting criteria" should have been set to "intra-frequency measurement reporting criteria" instead of "periodical reporting criteria". IE "Triggering condition 2" is set to "Active set cells". IE "Reporting interval" is set to 16 seconds as 12 seconds is not in the list.

  2. CELL UPDATE (Step 7): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

  3. MEASUREMENT REPORT (Step 11): IE "Event Results" should be present and that UE shall report the triggering of event type "1a" in this message.

- Test requirement

  1. The first requirement statement is deleted since it's checked during pre-amble (through basic generic procedures to bring UE to initial state 6-11).

  2. The content of CELL UPDATE expected in third requirement statement is clarified.

  3. The fourth requirement statement is revised to include "Event results" IE.

Clause 8.4.1.4

- Specific message contents

  1. SIB 11 (Step 1): IE "Inter-frequency measurement identity" is deleted – it has been removed in the core specifications.

  2. CELL UPDATE (Step 7): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

Clause 8.4.1.5

- Conformance requirement and Test Purpose:

  1. It is needed to clarify that the UE applies the reporting criteria in IE "intra-

frequency reporting criteria" received in SIB 11 or 12 upon a transition from CELL_FACH to CELL_DCH, only if there exists no intra-frequency measurement control information applicable to the UE in CELL_DCH state.

- Test Purpose:

  1. Clarified that SS shall receive the MEASUREMENT REPORT messages at 8 seconds interval, but these messages shall not contain all measurement readings for cell 3 in IE "Measured results".

- Expected sequence:

  1. Step 10: PAGING TYPE 1 message is replaced by SYSTEM INFORMATION CHANGE INDICATION message.

- Specific message contents:

  1. MEASUREMENT REPORT (Step 6): The absence of IE "Additional measure result list" should be checked explicitly.

  2. CELL UPDATE (Step 11): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

Clause 8.4.1.6

- Test Purpose:

  1. The sentence "This requirement shall be observed even if the UE has detected that the inter-frequency measurement reporting criteria have been satisfied in CELL_FACH state" are not necessary.

- Test Procedure:

  1. In the last paragraph, it is explicitly stated that UE shall not transmit MEASUREMENT REPORT after transiting to CELL_FACH state.

  2. It is clarifird that the TBD value shall be calculated using the references provided.

- Specific Message Contents:

  1. MEASUREMENT CONTROL (Step 8): IE "Frequency quality estimate" is set to "FALSE". IE "Measurement validity" should be set to "CELL_DCH", else the measurement control information in "measurement identity" = "15" will be deleted after a state transition.

  2. SIB 11 (Step 12): Default value for IE "Cell individual offset" needs not be specified. IE "TX diversity indicator" is missing.

  3. CELL UPDATE (Step 15): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

- Test requirement:

  1. The first requirement statement is deleted since it's checked during pre-amble (through basic generic procedures to bring UE to initial state 6-11).

Clause 8.4.1.7

- Conformance Requirements and Test Procedure:

1. The conformance statement is revised to include the description of "measurement validity" IE.

2. It is specified explicitly that UE continues to monitor the list of cells in "intra-frequency cell info" IE in SIB 11 or 12 only if there's no stored intra-frequency measurements applicable in CELL_DCH state.

3. It is specified explicitly that UE reports according to the reporting criteria in IE "intra-frequency measurement reporting criteria".

- Test Procedure:

  1. In the last sentence of the third paragraph, the MEASUREMENT CONTROL message sent by the SS should be identical to step 5, instead of step 10.

- Expected sequence:

  1. MEASUREMENT CONTROL (Step 15): The semantic description is revised to clearly specify that measurement control information for "measurement identity" = 12 should be terminated.

- Specific Message Contents:

  1. SIB 12 (Step 1): Descriptions to use default values for IE "Cell selection and re-selection info" is not needed.

  2. MEASUREMENT REPORT (Step 4): IE "Additional measured results" is checked explicitly for its absence.

  3. MEASUREMENT CONTROL (Step 5 and 17): IE "Measurement identity" should be set to "10" instead of "11", else it will result in 2 parallel measurement tasks. IE "Reporting threshold" has been renamed to "Threshold used frequency". Row misalignment has been corrected.

  4. MEASUREMENT REPORT (Step 6): IE "Additional measured results" is checked explicitly for its absence. Requirement for IE "Measured Results on RACH" is missing.

  5. MEASUREMENT CONTROL (Step 10): IE "Reporting threshold" has been renamed to "Threshold used frequency". Row misalignment has been corrected.

  6. MEASUREMENT REPORT (Step 14): IE "Additional measured results" is checked explicitly for its absence.

  7. SIB 12 (Step 21): Value "13" is incorrectly positioned in the "value/remark" column

Clause 8.4.1.8

- Conformance Requirements and Test Procedure:

  1. Text descriptions are revised to include the requirements pertaining to IE "measurement validity".

- Reference:

  1. Reference to clause 8.4.1.3 to TS 25.331 v370 is added.

- Test Procedure:

  1. In the last sentence of the third paragraph, the MEASUREMENT CONTROL message sent by the SS should be identical to step 5, instead of step 10.

- Specific Message Contents:

  1. MEASUREMENT CONTROL (Step 2): IE "reporting cell status" should contain some value, else UE will not report any values in IE "Cell measured results" in MEASUREMENT REPORT message of step 10.

  2. MEASUREMENT CONTROL (Step 11): IE "Frequency quality estimate" is set to "FALSE".

  3. MEASUREMENT CONTROL (Step 15): IE "Measurement identity" should be set to 14. Any other values except 14 will cause a protocol error since IE "Measurement command" is set to "Modify".

- Test requirement:

  1. The second requirement is revised to specify that IE "Event results" should be present to report the triggering of event "2c".

  2. The content of MEASUREMENT REPORT message in the fifth requirement should be identical to that in step 11 instead of step 9.

Clause 8.4.1.9

- Test Procedure:

  1. Text descriptions ".. the UE under test does not support inter-RAT measurement" are not necessary. This condition is specified in applicability statement of TS 34.123-2.

- Specific Message Contents:

  1. MEASUREMENT CONTROL (Step 2): Value "Not present" in IE "Measurement reporting mode" is deleted.

- Test requirement:

  1. A new test requirement paragraph is added to check that UE reports readings of UL transmitted power periodically at 1 second interval.

  2. In the first test requirement, descriptions pertaining to the requirement that UE shall identify unsupported measurement element in MEASUREMENT CONTROL message is not necessary.

Note: The IXIT statements in TS 34.123-2 should reflect the test applicability for this test case – only UE without inter-RAT measurement capability needs to execute this test case.

Clause 8.4.1.10

- Reference

  1. The correct reference should be clause 9.2 of TS 25.331 v370.

- Conformance requirements and test purpose:

  1. The descriptions are revised to state that UE continues its ongoing procedures and processes in general, rather than only not changing measurement configurations.

- Specific Message Contents:

  1. MEASUREMENT CONTROL (Step 4): Use the standard invalid message (only

"Message Type" IE is present) as agreed in previous T1/SIG meetings.

2. MEASUREMENT CONTROL FAILURE (Step 5): The value of IE "RRC transaction identifier" is not checked since this IE cannot be determined by the UE when it receives the invalid MEASUREMENT CONTROL message in step 4. The value of IE "protocol error information" is revised to "ASN.1 violation or encoding error".

- Test requirement:

1. The first requirement paragraph is revised to check that UE sends MEASUREMENT CONTROL FAILURE message with IE "protocol error information" set to "ASN.1 violation or encoding error".

Clauses 8.4.1.11, 8.4.1.12 and 8.4.1.13

- Conformance requirement:

1. Explanation of the nature of runtime error is not needed.

- Reference

1. The reference is revised to clause 8.2.11.2 of TS 25.331 v370.

- Test procedure:

1. It is clarified in the first paragraph that UE reports the RSSI value of the UTRA carrier on which cell 4 resides, instead of measurement reading of cell 4 itself.

2. The descriptions relating to the expected UE behaviour on the detection of runtime error due to overlapping compressed mode configuration is not necessary.

- Expected Sequence:

1. MEASUREMENT CONTROL (Step 4): The semantic description is clarified to indicate that IE "TGPSI status flag" is set to "Inactive".

- Specific Message Contents:

1. MEASUREMENT CONTROL (Step 2): Row misalignment is corrected. IE "Frequency quality estimate" is set to "FALSE".

- Test requirement:

1. Clarified that the MEASUREMENT REPORT messages sent by UE after step 7 should not contain IE CPICH RSCP readings for cell 4.

Clauses 8.4.1.14

- Test Purpose:

1. The current test purpose statement is not unclear about the exact requirement. It is revised to state that a particular P-CPICH is forbidden to affect the reporting range.

- Test Procedure and Expected Sequence:

1. SS's DL TX power configuration in table 8.4.1.14-1 is simplified. Instant "T4" is not longer needed.

2. The test sequence is re-designed. The main points are summarized below:

  ➢ The execution of active set update procedures is re-arranged to be after the

reporting of monitored cells (cell 2 and cell 3). This presents a more realistic picture of the soft handover sequence.

➢ Test step 10 is revised to verify that UE detects that cell 2 has entered the reporting range.

➢ To test that UE ignores that cell 2's CPICH is forbidden to affect the reporting range, new test steps (Steps 14 and 15 are introduced).

- Specific Message Contents

1. SIB Type 11 (step 1): IE "CPICH RSCP reporting indicator" under active set cell is set to 'FALSE' whereas IE "CPICH RSCP reporting indicator" under monitor set cell is set to 'TRUE'.

2. Step 2 (ACTIVE SETUP UPDATE), Step 3 (ACTIVE SETUP UPDATE COMPLETE): Deleted due to rearrangement of active set update procedure after transmission of MEASUREMENT CONTROL messages.

3. MEASUREMENT CONTROL (Step 5): Cell id should start from 1 instead of 0 in the current test settings. IE "Reporting cell status" in IE "CHOICE reporting criteria" should be present, else IE "Cell measured results" will be omitted in the corresponding MEASUREMENT REPORT message. IE "Triggering conditions 2" should include cells from monitored set since cell 2 and cell 3 are not yet included in active set.

4. MEASUREMENT REPORT (Step 10): SS checks that UE sends this message to report triggering of event 1a due to cell 2 entering the reporting range.

5. Step 10a (ACTIVE SETUP UPDATE), Step 10b (ACTIVE SETUP UPDATE COMPLETE): These message exchanges are added so that UE will include cell 2 into active set.

6. MEASUREMENT CONTROL (Step 11): IE "Reporting cell status" in IE "CHOICE reporting criteria" should be present, else IE "Cell measured results" will be omitted in the MEASUREMENT REPORT message in step 15.

7. MEASUREMENT REPORT (Step 15): SS checks that UE sends this message to report triggering of event 1a due to cell 3 entering the reporting range.

- Test Requirement:

1. All existing test requirements for ACTIVE SET UPDATE COMPLETE are deleted, since validating the correctness of active set update procedure is not the main objective of the test case.

2. Existing descriptive texts "the UE shall ignore the restriction imposed for the updating of reporting range …" are not necessary.

3. Requirements relating to the reception of MEASUREMENT REPORT are revised to center on the checking of IE "Event results" rather than IE "Measured results". This is because the later IE cannot be used to formally confirm which cell has caused event 1A to trigger.

(from Motorola)

In test cases 8.4.1.11, 8.4.1.12 and 8.4.1.13, second transmission gap pattern is activated for "GSM Carrier RSSI Measurement".

In test cases 8.4.1.18, 8.4.1.19 1nd 8.4.1.20, the IE "Traffic volume measurement object" is included in control information of Traffic volume measrement having validity "All states"

	⌘	
Consequences if not approved:	⌘	The UE cannot be test correctly.

Clauses affected:	⌘	8.4

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

Other comments:	⌘	Affects R'99 and R'4 UE test cases.

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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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

| Start of modification

8.4 Measurement procedure

~~For all test cases in the following clauses, SS configures the downlink transmission power for various cells according to table 6.1.3 of [9] unless otherwise stated explicitly in the following clauses. The distribution of the total downlink power from a cell (I~~$_{or}$~~) into its respective downlink physical channels (e.g. DPCH, CPICH, P-CCPCH) shall follow the settings defined in table 6.1.4 of [9]. The use of a noise source in SS (such as AWGN) is not necessary for all test cases in the following clauses. Similarly, the application of OCNS facility to simulate the interference effects of other uses or control signals on the other orthogonal channels of the downlink is not needed.~~

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~~ Upon a state transition from idle mode to CELL_DCH state, the UE shall begin or continue to monitor the list of ~~neighbouring~~ cells ~~which~~ assigned in the IE "intra-frequency cell info list" which is specified in System Information Block type 11 or 12 messages on BCCH. When entering CELL_DCH state, the UE shall send ~~a~~ MEASUREMENT REPORT message(s) when the condition(s) in "intra-frequency measurement reporting criteria" IE received are ~~satisfied~~fulfilled. ~~During~~ In CELL_DCH state, if the UE receives a MEASUREMENT CONTROL message, which contains a "measurement identity" IE similar in value to the "intra-frequency measurement identity" in System Information Block Type 11 or 12 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 8.4.1.8.1, 8.4.1.3

8.4.1.1.3 Test Purpose

To confirm that the UE continues to monitor intra-frequency measurement quantity of the ~~neighbour~~ cells listed in System Information Block type 11 or 12 messages, after it has entered ~~the~~ CELL_DCH state from idle mode. When the intra-frequency measurement reporting criteria specified in System Information Block type 11 or 12 messages have been met, it shall report the measurements using MEASUREMENT REPORT message(s). To confirm that the UE terminates monitoring and reporting activities for the ~~neighbour~~ cells ~~found~~ listed in "intra-frequency cell info list" IE in System Information Block type 11 or 12 messages, after it has received a MEASUREMENT CONTROL message that specifies the measurement type to be "intra-frequency measurement" with the same measurement identity in System Information Block Type 11 or 12 messages. To confirm that the UE 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 and cell 2 are active. ~~The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.1-1. The table is found in "Test Procedure" clause.~~

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

Test Procedure

Table 8.4.1.1-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 8.4.1.1-1

Parameter	Unit	Cell 1			Cell 2		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1		
CPICH Ec~~RSCP~~	dBm/3.84 MHz	~~-66~~-60	~~-74~~-60	-60	~~-69~~-70	~~-81~~-80	-60

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters in the modified System Information Block message are as follow: measurement type = "intra-frequency measurement", measurement quantity = "CPICH RSCP", report criteria = "periodic reporting criteria", reporting interval = "~~12~~ 64 seconds".

SS prompts the operator to make an outgoing call of a supported traffic class. SS and UE shall execute procedure P3 (for CS service) or P5 (for PS service). Next SS and UE shall execute procedure P7 (for CS service) or P9 (for PS service). Then SS and UE shall execute procedure P11 (for CS service) or P13 (for PS service). ~~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 shall then transmit RRC CONNECTION SETUP COMPLETE message and move to CELL_DCH state.~~ The UE shall send a MEASUREMENT REPORT message after reaching CELL_DCH state, reporting cell 2's CPICH RSCP value. After 64 seconds has passed since SS receives the first MEASUREMENT REPORT message~~approximately 12 seconds~~, the UE shall transmit a second 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~~.

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 = "1~~2~~", report criteria = "event-trigger", event identity = "1f", reporting threshold = "-70~~5~~ dBm". ~~After receiving this message, the UE shall delete the existing measurement and reporting contexts captured from System Information Block type 11 messages.~~ SS checks to see that no MEASUREMENT REPORT messages are sent within the next ~~12~~ 64 seconds (which is due to periodic reporting). SS reconfigures the downlink transmission power settings according to values in column "T1" in Table 8.4.1.1-1. The UE shall transmit a MEASUREMENT REPORT message when it detects that the CPICH RSCP of cell 2 has reached the threshold value specified in MEASUREMENT CONTROL message.

SS reconfigures the downlink transmission power settings according to values in column "T2" in Table 8.4.1.1-1. SS sends a new 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 = "1", report criteria = "event-trigger", event identity = "1B", Reporting range 8db. SS reconfigures the downlink transmission power settings according to values in column "T0" in table 8.4.1.1-1. The UE shall transmit a MEASUREMENT REPORT message when it detects that the condition for event 1b is fulfilled.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11	The UE is idle mode and camped onto cell 1. The System Information Block type 11 messages to be transmitted are different from the default settings (see specific message contents)
2	↔		SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	~~SS prompts the operator to make an outgoing call.~~
3	↔→		SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.~~RRC CONNECTION REQUEST~~Void	
4	↔←		SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.~~RRC CONNECTION SETUP~~Void	~~SS allocates dedicated physical channels to UE~~
5	→		~~RRC CONNECTION COMPLETE~~Void	~~UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_DCH state.~~
6	→		MEASUREMENT REPORT	SS waits 64 seconds
6a	→		MEASUREMENT REPORT	SS ~~waits for 25 seconds. It~~ shall receive ~~2~~ consecutive MEASUREMENT REPORT messages at 64 seconds interval.
7	←		MEASUREMENT CONTROL	A ~~new~~ measurement with "measurement identity" IE set to "1" is assigned, with the IE "CHOICE reporting criteria" set to "intra-frequency measurement reporting criteria"~~reporting quantity changed to cell 2's CPICH RSCP~~. See specific message content for the rest of the message.
8				SS waits for ~~approximately 15~~64 seconds and verifies that no further MEASUREMENT REPORT messages are detected on the uplink DCCH.
9				SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-1.
10	→		MEASUREMENT REPORT	SS verifies that UE transmits a MEASUREMENT REPORT message to report the ~~P-~~CPICH RSCP value of cell 2.

Step	Direction		Message	Comment
	UE	SS		
11		▮	▮	SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-2
12	←		MEASUREMENT CONTROL	A measurement with "measurement identity" IE set to "1" is assigned, with the IE "CHOICE reporting criteria" set to "intra-frequency measurement reporting criteria". See specific message content for the rest of the message.
13	▮		▮	SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-3 and awits 5 seconds
14	→		MEASUREMENT REPORT	SS verifies that UE transmits a MEASUREMENT REPORT message to report occurrence of event 1b.

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
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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	256 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	+33dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	~~-115 -80~~20dB
- Qrxlevmin	~~-20 -24~~115dBm
- Cell~~s~~ for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	Not Present
~~- SFN-SFN observed time difference~~	~~No report~~
~~- Reporting quantity~~	~~No report~~
- Maximum number of reported cells on RACH	~~No report~~Not Present
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical reporting
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	~~12~~ 64 seconds
- Inter-frequency measurement system information	Not present
- Inter-RAT measurement system information	Not Present

- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

MEASUREMENT REPORT (Step 6 and 6a)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

MEASUREMENT CONTROL (Step 7)

Information Element	Value/Remark
Measurement Identity	12
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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	256 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Intra-frequency cell id	Set to id of cell 2
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not Present
	Not present
- Measurement validity	Intra-frequency measurement reporting criteria
- CHOICE report criteria	
- Parameters required for each events	
- Intra-frequency event identity	1f
- Triggering condition 1	Monitored set cells
- Triggering condition 2	Not Present
- Reporting range	Not Present
- Cells forbidden to affect reporting range	Not Present
- W	Not Present
- Hysteresis	1 dB
- Threshold used frequency	-705 dBm
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	0 msec
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	

Information Element	Value/Remark
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1~~2~~
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if this IE is set to "Intra-frequency measurement event results"
- Intra-frequency event identity	Check to see if this IE is set to "1f"
- Cell measured event results	
- CHOICE mode	Check to see if this IE is set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step 12)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency info list	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	256 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Intra-frequency cell id	Set to id of cell 2
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting	No report

Information Element	Value/Remark
indicator	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not Present
- Measurement validity	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each events	
- Intra-frequency event identity	1b
- Triggering condition 1	Monitored Cells
- Triggering condition 2	Not Present
- Reporting range	8 dB
- Cells forbidden to affect reporting range	Not Present
- W	0
- Hysteresis	0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	5000 msec
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	Not Present
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 14)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1
Measured Results	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	
- CHOICE event result	
- Intra-frequency event identity	Check to see if this IE is set to "1b"
- Cell measured event results	
- CHOICE mode	Check to see if this IE is set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2

8.4.1.1.5 Test Requirement

After step 5 the UE shall start to transmit 2 MEASUREMENT REPORT messages at 64 seconds interval. The measurement quantity "CPICH RSCP" of cell 2 shall be reported in these messages to the SS at 12 seconds interval.

After step 7 the UE shall not transmit any MEASUREMENT REPORT messages within 15 64 seconds after SS has transmitted the MEASUREMENT CONTROL message in step 7.

After step 9 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, to report that the CPICH RSCP value for cell 2 has dropped below the threshold stated in the MEASUREMENT CONTROL message transmitted by the SS in step 7. This MEASUREMENT REPORT message shall also contain IE "Event results", indicating the triggering of event '1f'.

In step 12 SS transmits a new Measurement Control message. In the following the UE shall transmit a MEASURMEASUREMENT REPORT message depending on the re-adjustment of CPICH downlink transmission power in both cells containing IE "Event results", indicating the triggering of event '1b'.

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~~stop monitoring ~~of~~ the list of ~~neighbouring~~ cells assigned in the IE "inter-frequency cell info" IE in System Information Block 11 or 12 messages. In CELL_DCH state, when the UE receives a MEASUREMENT CONTROL message requesting for a measurement of inter-frequency measurement type 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 clauses 8.4.1.3, 8.4.1.8.2 and 8.6.7.9

8.4.1.2.3 Test Purpose

To confirm that the UE stops monitoring the list of ~~neighbouring~~ cells 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 a stored compressed mode pattern sequence be simultaneously activated. To confirm that the UE excludes 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 and cell 4 are active.~~The initial configurations of the 2 cells in the SS shall follow the values indicated in table 8.4.1.2-1. The table is found in "Test Procedure" clause.~~

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

Test Procedure

Table 8.4.1.2-1 illustrates the downlink power to be applied for the 2 cells.

Table 8.4.1.2-1

Parameter	Unit	Cell 1	Cell 4
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH ~~RSCP~~Ec	dBm/3.84 MHz	-~~74~~60	-~~78~~75

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information", and also to include cell 4 into ~~the monitored neighbour~~ " inter-frequency cells info list" IE.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. SS and UE shall execute procedure P3 (for CS service) or P5 (for PS service). ~~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.~~ The RRC CONNECTION SETUP message <u>used in procedure P3 or P5 should</u> contain~~s~~ IE "DPCH compressed mode info", ~~signifying the establishment of a~~<u>activating the</u> transmission pattern gap sequence with TGPSI=1. ~~UE shall send RRC CONNECTION SETUP COMPLETE on the uplink DCCH and then moves to CELL_DCH state.~~ <u>Next SS and UE shall execute procedure P7 (for CS service) or P9 (for PS service). Then SS and UE shall execute procedure P11 (for CS service) or P13 (for PS service).</u>The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings ~~from~~ <u>for</u> cells ~~belonging to the monitored set~~<u>listed in the IE "inter-frequency cell info list" in System Information Type 11</u>.

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 4. The "DPCH compressed status info" IE in this message activates the transmission gap pattern sequence with TGPSI = 1. The UE shall start inter-frequency measurement <u>and reporting</u> for cell 4's CPICH RSCP values. It shall report this measurement result by transmitting MEASUREMENT REPORT messages on uplink DCCH periodically at 16 seconds interval.

~~In the next sequence,~~ SS sends ~~another~~ MEASUREMENT CONTROL message on the downlink DCCH. ~~In this message,~~<u>omitting</u> the IE "Reporting cell status" ~~is not included~~. The UE shall send MEASUREMENT REPORT messages on the uplink DCCH, with the IE "Cell measured results" excluded ~~from~~ <u>in</u> these messages.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11<u>.</u>	The UE is idle mode and camped onto cell 1.System Information Block Type 11 to be transmitted is different from the default settings (see specific message contents)
2		↔	<u>SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.</u>	SS prompts the operator to make an outgoing call.
3		↔→	<u>SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.</u>~~RRC CONNECTION REQUEST~~<u>Void</u>	
4		↔←	<u>SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.</u>~~RRC CONNECTION SETUP~~<u>Void</u>	~~SS allocates dedicated physical channels to UE, as well as specifying the activation of compressed mode behaviour with pattern sequence TGPSI = 1.~~
5	→		~~RRC CONNECTION SETUP COMPLETE~~<u>Void</u>	~~UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_DCH state.~~
6				SS checks to see that no MEASUREMENT REPORT messages are <u>received</u> ~~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 4, and performing periodic reporting for cell 4's CPICH RSCP. "DPCH compressed mode status info" IE is set to simultaneously activate compressed mode pattern.
10	→	MEASUREMENT REPORT	UE shall report cell 4's CPICH RSCP reading periodically.
11	←	MEASUREMENT CONTROL	SS changes the reporting criteria of cell 4 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 "Inter-frequency 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 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
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	1
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	Set to the uplink UARFCN of cell 4
- UARFCN downlink (Nd)	Set to the downlink UARFCN of cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115dBm
- Cells for measurement	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

RRC CONNECTION REQUEST (Step 3)

Information Element	Value/Remarks
Establishment cause	Check to see if set to originating call of a supported traffic class
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP (Step 4~~1~~2)

Use the message found in TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- CFN-targetSFN frame offset	Not Present
- Downlink DPCH power control information	
- DPC mode	Single TPC
- CHOICE Mode	FDD
- Power offset $P_{Pilot\text{-}DPDCH}$	~~TBD~~0
- 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)	Refer to the parameter set in TS 34.108
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	~~8~~4
- TGL1	7~~10~~
- TGL2	Not Present~~5~~
- TGD	0~~15~~
- TGPL1	3~~5~~
- TGPL2	Not Present~~35~~
- RPP	Mode 0~~1~~
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	~~A~~B
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

PHYSICAL CHANNEL RECONFIGURATION (Step 7)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/remark
CHOICE *channel requirement*	Uplink DPCH info
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	1 frame
- SRB delay	7 frames
- 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	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (single)
- CHOICE mode	FDD
- Power offset $P_{Pilot-DPDCH}$	TBD0
- 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
- TGCFN	Not Present
- Transmission gap pattern sequence configuration parameters	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0
Downlink information per radio link list	Not Present

MEASUREMENT CONTROL (Step 9)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell<u>s</u> for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- 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~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cell within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity	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
- Cell synchronisation information	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 absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured results	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	1
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- 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~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	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	2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	0.5 dB
- Time to trigger	0 milliseconds
- 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	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	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured Results	Check to see if it is absent
Event Results	
- CHOICE event result	Check to see if this IE is set to "Intra-frequency measurement event results"
- Inter-frequency event identity	Check to see if this IE is set to "2c"
- Inter-frequency cells	
- 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
- Non frequency related measurement event results	
- CHOICE Mode	Check to see if set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code as cell 4

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 RSCP ~~quantity~~ of cell 4.

After step 9 the UE shall transmit MEASUREMENT REPORT messages on uplink DCCH, reporting cell 4's CPICH RSCP value at periodic time interval of 16 seconds in "inter-frequency cell measurement results" IE.

After step 11 the UE shall transmit only 1 MEASUREMENT REPORT message on the uplink DCCH. In this message, IE "inter-frequency cell measured results" shall be absent.

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

The UE shall begin monitoring ~~neighbouring~~ cells listed in the IE "intra-frequency cell info list" received in System Information Block type 11 or 12 messages~~. During~~ upon a transition from idle mode to CELL_FACH state~~., the UE shall continue to monitor neighbouring cells listed in the IE "Intra-frequency cell info" received in System Information Block type 11 or 12 messages.~~ If ~~an~~ IE "intra-frequency measurement reporting criteria" is ~~also~~ specified in ~~these~~ System Information Block Type 11 or 12 messages, the UE shall store this information~~. The UE~~ and shall apply these reporting rules ~~when deciding to transmit MEASUREMENT REPORT messages following~~ in a subsequent transition to CELL_DCH state. If the UE receives IE "Intra-frequency reporting for RACH reporting" and IE "Maximum number of Reported cells on RACH" in System Information Block type 11 or 12 messages, the UE shall~~reporting during RACH transmissions is dictated by the UTRAN, the UE shall append the~~ use these measurement information and report the measured results when sending messages on RACH.

Reference

3GPP TS 25.331, clause 8.4.1.9~~.~~1, 8.4.1.7.1

8.4.1.3.3 Test Purpose

To confirm that the UE begins or continues to monitor ~~the neighbouring~~ cells listed in IE "intra-frequency cell info list" of System Information Block type 11 or 12 messages ~~in idle mode, and continue to do so~~ after it has entered ~~the~~ CELL_FACH state from idle mode. ~~If information regarding the~~ To confirm that the UE applies the reporting criteria stated in "intra-frequency measurement reporting criteria" IE in System Information Block Type 11 or 12 ~~is also broadcasted, the UE shall store this information and apply the reporting criteria after~~ in a subsequent transition to CELL_DCH state. ~~If RACH measurement reporting is dictated in System Information Block type 11 or 12 messages, the UE shall include these measurements when transmitting on the RACH channel.~~ To confirm that the UE reports measured results on RACH messages, if it receives IE "Intra-frequency reporting quantity for RACH reporting" and IE "Maximum number of reported cells on RACH" from System Information Block Type 11 or 12 upon a transition from idle mode to CELL_FACH state.

8.4.1.3.4 Method of test

Initial Condition

System Simulator: 2 cells. ~~both c~~Cell 1 and cell 2 are active. ~~See Table 8.4.1.3-1 for the power settings.~~

UE: ~~"Registered idle mode on CS" (state 2) or~~ "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

Test Procedure

Table 8.4.1.3-1 illustrates the downlink power to be applied for the 2 cells in this test case.

Table 8.4.1.3-1

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. ~~2~~1
CPICH ~~RSCP~~Ec	dBm/3.84 MHz	-~~74~~60	-~~78~~70

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 2 into the ~~monitored neighbour~~ IE "intra-frequency cell info 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". In the System Information type 11 messages, reporting of CPICH RSCP is also required for intra-frequency reporting when transmitting RACH messages ~~to~~ on cell 1.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. SS and UE shall execute procedure P6. Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14.~~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 physical channels for uplink and downlink usage. UE shall then enter CELL_FACH state.~~ SS starts timer T305 and waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of cell 1~~2~~'s CPICH RSCP values in IE "Measured results on RACH". SS then replies 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 dedicated physical channels to the UE. The UE shall transit to CELL_DCH state and then 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 messages when the UE was still in idle mode. The IE "Measured results" in the MEASUREMENT REPORT messages shall contain measured values of cell 2's CPICH RSCP.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 1, System Information Block type 11	The UE is idle mode and camped onto cell 1. System Information Block type 1 and 11 to be transmitted are different from the default settings (see specific message contents)
2	↔		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.Void	SS prompts the test operator to make an outgoing call.
3	↔→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.RRC CONNECTION REQUESTVoid	The CPICH RSCP value of Cell 1 shall be reported.
4	↔←		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.RRC CONNECTION SETUPVoid	SS allocates common physical channels to UE.
5	→		RRC CONNECTION COMPLETEVoid	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 MEASUREMNENT REPORT messages are detected. SS waits for 5 minutes (for the expiry of T305 timer).
7	→		CELL UPDATE	This message shall contain IE "Measured results on RACH" reporting the measurement readings of CPICH RSCP for cell 1.
8	←		CELL UPDATE CONFIRM	SS does not change the physical channel configurations.
9	←		PHYSICAL CHANNEL RECONFIGURATION	SS assigns dedicated 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 message.
11	→		MEASUREMENT REPORT	UE shall begin to report cell 2's CPICH RSCP value periodically at 12 16 seconds interval. The measurement identity shall match measurement contexts transmitted on BCCH in step 1

Specific Message Content

System Information Block type 1 (Step 1)

Information Element	Value/Remarks
UE Timers and constants in connected mode - T305	5 minutes.

System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	FALSE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement reporting indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	5
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin~~,~~	-20dB~~,~~
- Qrxlevmin	-115dBm
- Cell**s** for measurement	Not Present
- 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	CPICH RSCP
- 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	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodic Reporting
- CHOICE report criteria	Intra-frequency measurement~~Periodical~~

Information Element	Value/Remark
- Parameters required for each event	reporting criteria
- Intra-frequency event identity	
- Triggering condition 1	1a
- Triggering condition 2	Not Present
- Reporting Range Constant	~~Not Present~~Active set cells
- Cells forbidden to affect reporting range	~~9~~20.0 dB
- CHOICE mode	Not Present
- Primary CPICH info	FDD
- Primary Scrambling Code	
- W	Set to same code as used for cell 2
- Hysteresis	0.0
- Threshold used frequency	1.0 dB
- Reporting deactivation threshold	-85 dBm
- Replacement activation threshold	0
- Time to trigger	Not Present
- Amount of reporting	0msec
- Reporting interval	Infinity
- Reporting Cell Status	~~12~~16 seconds
- CHOICE reported cell	
	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

CELL UPDATE (Step 7)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI value assigned in ~~RRC CONNECTION SETUP message~~the execution of procedure P6.
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	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is absent.
Protocol error information	Check to see if set to 'FALSE'

PHYSICAL CHANNEL RECONFIGURATION (Step 9)

Use the same message sub-type found in Annex A, which is entitled "Packet to CELL_DCH from CELL_FACH".

MEASUREMENT REPORT (Step 11)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Event Results	~~Check to see if this IE is absent~~
- CHOICE event result	Check to see if set to "Intra-frequency measurement event results"
- Intra-frequency event identity	Check to see if set to "1a"
- Cell measurement event results	
- CHOICE Mode	Check to see if set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the scrambling code of cell 2

8.4.1.3.5   Test Requirement

~~After step 3 the UE shall send RRC CONNECTION REQUEST message, which includes measured value of cell 1's CPICH RSCP 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 on CCCH. In this message, ~~the~~ IE "cell update cause" shall be set to "periodic cell updating". It shall include IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP ~~measurement quantity~~.

After step 10 the UE shall transmit MEASUREMENT REPORT messages at ~~12~~16 seconds interval. In these messages, ~~neighbouring~~ cell 2's CPICH RSCP value shall be reported in IE "Measured results". The IE "measurement identity" in this message shall match the IE "Intra-frequency measurement identity" found in System Information Block type 11 messages transmitted in step 1. The MEASUREMENT REPORT messsages shall also contain IE "Event results", indicating that intra-frequency event "1a" has triggered in the UE.

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 cells listed ~~of~~ in IE "inter-frequency cell info list" ~~neighbouring cells~~ assigned in the System Information Block type 11 or 12 messages.

Reference

3GPP TS 25.331, clause 8.4.1.9.2

8.4.1.4.3 Test Purpose

To confirm that the UE begins to monitor the list of ~~neighbouring~~ cells assigned in the IE "inter-frequency cell info list" 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.

8.4.1.4.43 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and cell 4 are active. ~~The initial configurations of the 2 cells in the SS shall follow the values indicated in the columns marked "T0" in table 8.4.1.4-1. The table is found in "Test Procedure" clause.~~

UE: ~~"Registered idle mode on CS" (state 2) or~~ "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

Test Procedure

Table 8.4.1.4-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 8.4.1.4-1

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH ~~RSCP~~Ec	~~D~~dBm/3.84MHz	-~~70~~60	-~~80~~75	-~~80~~75	-~~70~~60

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11~~2~~ messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 4 into the ~~monitored neighbour~~ "inter-frequency cell list" IE ~~for inter-frequency measurement type~~.

SS prompts the operator to make an outgoing call of a supported traffic class. SS and UE shall execute procedure P6. Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14. ~~The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH channel on the uplink and S-CCPCH channel on the downlink to the UE. UE then moves to CELL_FACH state.~~ The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to

measurement readings ~~from~~ for inter-frequency cells belonging to the monitored set. SS re-adjusts its downlink power settings according to columns marked "T1" in Table 8.4.1.4-1. This is expected to trigger a cell reselection in the UE. The UE shall send CELL UPDATE message to cell 4 in order 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 is PS-DCCH+DTCH_FACH (state 6-11) in~~idle mode and camped onto~~ cell 1. System Information Block type 11 to be transmitted is different from the default settings (see specific message contents)
2			Void	~~SS prompts the test operator to make an outgoing call.~~
3	→		Void~~RRC CONNECTION REQUEST~~	
4		←	Void~~RRC CONNECTION SETUP~~	~~SS allocates PRACH and S-CCPCH resources to UE~~
5	→		~~RRC CONNECTION SETUP COMPLETE~~Void	~~UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_FACH state.~~
6				SS checks to see that no MEASUREMENT REPORT messages are received.~~sent from UE to cell 1.~~
7				SS reconfigures the downlink transmission power, according to columns "T1" of Table 8.4.1.4-1.
8	→		CELL UPDATE	UE shall detect that cell 4 has become stronger than cell 1. It sends this message after re-selecting to cell 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 (Step 1)

Information Element	Value/Remark
SIB12 Indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	TRUE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
~~ - Inter-frequency measurement identity~~	~~1~~
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- Frequency info	
- UARFCN uplink (Nu)	Set to uplink UARFCN of cell 4
- UARFCN downlink (Nd)	Set to the downlink UARFCN of cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Cell<u>s</u> for measurement	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

~~RRC CONNECTION REQUEST (Step 3)~~

~~Information Element~~	~~Value/Remarks~~
~~Establishment cause~~	~~Check to see if set to 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 (Step 4)~~

~~Use the message sub-type in default message content defined in Annex A, which is marked as "Transition to CELL_FACH".~~

CELL UPDATE (Step 8)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same to value as U-RNTI assigned during the execution of procedure P6.in RRC CONNECTION SETUP message
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 (Step 9)

Use the message sub-type in default message content defined in Annex A.

8.4.1.4.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to any measurement quantities for cell 4.

After step 7 the UE shall reselect to cell 4 and transmit a CELL UPDATE message on the uplink CCCH of cell 4.

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 stop intra-frequency type measurement reporting assigned in a previous MEASUREMENT CONTROL message. After transition 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 12. If no intra-frequency measurements applicable to CELL_DCH are stored in the UE, and that Tthe UE shall store thereceives "intra frequency reporting criteria" IE specified in System Information Block type 11 or 12 messages received whilst in CELL_FACH state, and it shall apply these reporting criteria after a subsequent return to CELL_DCH state. If the UE receives the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block Type 11 or 12 during a transition from CELL_DCH to CELL_FACH 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 8.4.1.6.1, 8.4.1.7.1

8.4.1.5.3 Test Purpose

To confirm that the UE stops performing intra-frequency measurement reporting specified in a previously received MEASUREMENT CONTROL message, when it moves from CELL_DCH state to CELL_FACH state. To confirm that the UE reads the System Information Block type 11 or 12 messages when itn enters CELL_FACH state from CELL_DCH state, and starts to monitor the cells listed in the IE "intra-frequency neighbouring cells info"indicated in these messages. To confirm that the UE performs measurements on uplink RACH transmissions and appends the measured results in RACH messages, when it receives IE "intra-frequency reporting quantity for RACH reporting" and IE "Maximum number of reported cells on RACH" requested by the UTRAN to do so-in the System Information Block type 11 or 12 messages. To confirm that the UE applies the reporting criteria in IE "intra-frequency reporting criteria" in System Information Block Type 11 or 12 messages following a state transition from CELL_FACH to CELL_DCH, if no intra-frequency measurements applicable to CELL_DCH are stored.

8.4.1.5.4   Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 and cell 2 are active, while cell 3 is switched off. ~~The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.14-1. The table is found in "Test Procedure" clause.~~

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) ~~"Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3)~~ in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. ~~If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).~~

Test Procedure

Table 8.4.1.5-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Columns marked "T0" denotes the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

~~Table 8.4.1.5-1~~

Table 8.4.1.5-1

Parameter	Unit	Cell 1		Cell 2		Cell 3	
		T0	T1	T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	DBm~~/~~3.84 MHz	~~-75~~60	~~-75~~60	-80	-8~~5~~0	~~Cell 3 is switched off~~-122	~~-77~~70

The UE is initially in ~~idle mode and has selected cell 1 as the current cell~~CELL_DCH state. The System Information Block type 11 message is modified ~~from its~~with respect to the default message contents, in order to prevent the ~~UE's~~ reporting of "Cell synchronisation information". No measurement requirements are specified for the UE in any of the System Information Block type 11 or 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 dedicated 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 an intra-frequency measurement task for the measurement of cell 2's CPICH RSCP. At the same time, reporting of cell 2's CPICH RSCP 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 (UL)/DCH (DL) to~~ and configures RACH ~~(UL)/~~ and FACH channels in the uplink and downlink directions respectively ~~(DL)~~. After receiving this message, the UE shall reconfigure itself and reply with a 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 Block messages~~. SS ~~then~~ monitors the uplink channels to verify that no MEASUREMENT REPORT messages are received.

SS reconfigures itself according to the settings in columns marked "T1" in table 8.4.1.5-1. ~~It then~~SS transmits System Information Block type 12 messages in cell 1, which ~~indicates to~~ include cell 3 into the ~~neighbour~~ IE "intra-frequency cell~~s~~ info" ~~monitoring list~~. IEs "Intra-frequency reporting quantity for RACH Reporting" and IE "Maximum number of Reported cells on RACH" are also specified in the~~se~~ System Information Type 12 messages. ~~An event-triggered (e~~Event type 1a~~)~~ reporting criterion is specified for intra-frequency measurements. SS transmit SYSTEM INFORMATION CHANGE INDICATION message to UE. SS ~~then~~ waits until T305 has expired. The UE shall respond with a CELL UPDATE message, which comprises ~~measurement~~ IE "Measured results on RACH" to report the readings of CPICH RSCP for cell 1 and cell 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 resources nor allocate any new RNTI identities. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, ~~allocating~~ and configures dedicated physical ~~resources~~ channel for both uplink and downlink directions ~~to the UE~~. 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 RSCP value.~~ SS shall receive the MEASUREMENT REPORT messages with IE "Event results" at 8 seconds interval. ~~UE shall not send any reports containing the measured values of cell 3.~~

Expected Sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	Master Information Block System Information Block type 11	UE is ~~initially in idle mode~~in CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) in cell 1. System Information Block Type 11 to be broadcasted specifies no measurement type to be configured in UE.~~, and test operator is asked to make an outgoing call.~~
2	→		~~RRC CONNECTION REQUEST~~Void	
3		←	~~RRC CONNECTION SETUP~~Void	~~Uplink and downlink dedicated resources are allocated.~~
4	→		~~RRC CONNECTION SETUP COMPLETE~~Void	~~UE shall move to CELL_DCH state.~~
5		←	MEASUREMENT CONTROL	SS requests for measurement and reporting of cell 2's CPICH RSCP value.
6	→		MEASUREMENT REPORT	UE shall send periodic report at 16 seconds interval.~~ SS waits for 2 consecutive reports.~~
7		←	PHYSICAL CHANNEL RECONFIGURATION	SS ~~switches the physical resources to~~configures common physical channels.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall reconfigure its uplink channel to RACH and downlink channel~~s~~ to FACH, before transiting to CELL_FACH state.
9		←	Master Information Block System Information Block type 12	SS reconfigures itself according to the settings stated in column "T1" of table 8.4.1.5-1. SIB type 12 indicates ~~UE shall include~~that cell 3 is included in~~to~~ the ~~IE "intra-frequency cell info"~~monitored neighbour cell list. SS waits for 1 minute and verifies that no MEASUREMENT REPORT messages are detected on the uplink.

Step	Direction		Message	Comment
	UE	SS		
10	←		~~PAGING TYPE 1~~SYSTEM INFORMATION CHANGE INDICATION	SS waits until T305 has expired.
11	→		CELL UPDATE	UE shall transmit this message with measured results on RACH channels for cell 1 and cell 3 present in this message.
12	←		CELL UPDATE CONFIRM	No changes in physical resource allocation and RNTI identities.
13	←		PHYSICAL CHANNEL RECONFIGURATION	~~Allocates~~ SS configures dedicated physical channels.
14	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state.
15	←		MEASUREMENT REPORT	UE shall report cell 2's CPICH RSCP value in IE "Cell measured results" and the triggering of event '1a' in IE "Event results".

Specific Message Content

MASTER INFORMATION BLOCK (Step 1)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/Remarks
MIB Value Tag	1

System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
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-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

~~RRC CONNECTION SETUP (Step 3)~~

~~Use the same message sub-type found in Annex A, which is entitled "Transition to CELL_DCH".~~

MEASUREMENT CONTROL (Step 5)

Information Element	Value/Remark
Measurement Identity	5
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Intra-frequency cell id	~~Set to id of cell~~ 2
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- 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	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional measured result list	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 Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)"

MASTER INFORMATION BLOCK (Step 9)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/Remarks
MIB Value Tag	2

System Information Block type 12 (Step 9)

Information Element	Value/Remark
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	6
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Cell__s__ for measurement	Not Present
- 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	CPICH RSCP
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	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	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting range	~~9~~20.0 dB
- Cells forbidden to affect reporting	Not present
~~- CHOICE Mode~~	~~FDD~~
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~Set to scrambling code for cell 3~~
- W	0.0
- Hysteresis	1.0 dB

Information Element	Value/Remark
- 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
- Reporting cell status	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency~~Not Present~~
- Maximum number of reported cells	3
- Inter-frequency measurement system information	Not present
- Inter-RAT measurement system information	Not present
- Traffic volume measurement system information	Not present
- UE internal measurement system information	Not present

SYSTEM INFORMATION CHANGE INDICATION (Step 10)

Information Element	Value/Remarks
BCCH modification info	
- MIB Value tag	2

CELL UPDATE (Step 11)

Information Element	Value/Remarks
U-RNTI	Check to see if set to the same ~~to~~ value ~~as in the U-RNTI~~ assigned during the execution of procedure P3 or P5 ~~RRC CONECTION SETUP message~~.
Cell update cause	Check to see if it is set to "Periodical cell update"
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	
- Measurement result for current cell	
- CHOICE measurement quantity	
- CPICH RSCP	Check to see if set to "CPICH RSCP"
- Measurement results for monitored cells	Check to see if it is present
- SFN-SFN observed time difference	
- Primary CPICH info	Not Checked
- Primary scrambling code	
- CHOICE measurement quantity	Check to see if the same as cell 3's code.
- CPICH RSCP	Check to see if set to "CPICH RSCP"
Protocol error information	Check to see if it is present
	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_DCH from CELL_FACH in PS)".

MEASUREMENT REPORT (Step 15)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 6
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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 1
- 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
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Event results	Check to see if this set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if set to '1a'
- Cell measurement event results	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code for cell ~~2~~3

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~~ IE "measured result" to report ~~of~~ cell 2's CPICH RSCP value.

After step 8, the UE shall not send any MEASUREMENT REPORT messages containing reporting quantities requested in MEASUREMENT CONTROL messages in step 5.

After step 10, the UE shall perform a cell update procedure and transmit a CELL UPDATE message. In this message, ~~the~~ measured values CPICH RSCP for cell 1 and cell 3 shall be included in the IE "measured results on RACH".

After step 15, the UE shall apply the ~~stored inter~~"intra-frequency measurement reporting criteria" ~~specified~~ received in System Information Block type 12 messages of step 9. It shall send MEASUREMENT REPORT messages at 8 seconds interval~~containing estimates for cell 2's CPICH RSCP value in IE "Cell measured results"~~. In the~~se~~ ~~same~~ message~~s~~, triggering of event '1a' shall be reported in IE "Event results" with IE "Primary CPICH info" containing the primary scrambling code for cell 3. ~~The UE shall not transmit any MEASUREMENT REPORT messages, which report 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 stop all measurement reporting activities related to inter-frequency measurements assigned in a MEASUREMENT CONTROL message. After ~~reaching~~ a transition from CELL_DCH state to CELL_FACH state, the UE shall begin to monitor ~~neighbouring~~ cells listed in the IE "inter-frequency cell info" ~~specified~~ in the System Information Block type 11 or 12 messages.

Reference

3GPP TS 25.331, clause 8.4.1.6.2

8.4.1.6.3 Test Purpose

To ~~verify~~ confirm that UE ceases ~~to transmit MEASUREMENT REPORT messages to report~~ inter-frequency type measurement~~s~~ reporting assigned in MEASUREMENT CONTROL message when moving from CELL_DCH state to CELL_FACH. ~~This requirement shall be observed even if the UE has detected that inter-frequency type measurement reporting criteria have been satisfied in CELL_FACH state.~~ To ~~verify~~ confirm that the UE begins to monitor~~s~~ the ~~neighbouring~~ cells listed in "inter-frequency cell info" received in System Information Block type 11 or 12 messages, following a state transition from CELL_DCH state to ~~after reaching~~ CELL_FACH state.

8.4.1.6.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and cell 2 are active. ~~The initial configurations of the 2 cells in the SS shall follow the values indicated in the columns marked "T0" in table 8.4.1.6-1. The table is found in "Test Procedure" clause.~~

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) ~~"Registered idle mode on CS" (state 2) or "Registered idle mode on CS" (state 3)~~ in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. ~~If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).~~

Test Procedure

Table 8.4.1.6-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 8.4.1.6-1

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec~~RSCP~~	dBm/ 3.84 MHz	-~~70~~60	-~~81~~75	-~~81~~75	-~~70~~60

The UE is initially in ~~CELL_DCH state.~~ ~~idle mode, after camping on cell 1. SS prompts the test operator to initial an outgoing call for one of the supported traffic classes.~~ The System Information Block type 11 message is modified with respect to the default settings, so that no measurement tasks are required of the UE. ~~The UE shall send a RRC CONNECTION REQUEST message on the uplink CCCH. Upon receiving this message, SS allocates dedicated 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 confirmation of the UE inter-frequency measurement capability,~~ SS transmits PHYSICAL CHANNEL RECONFIGURATION message. In this message, IE "DPCH compressed mode info" is present, which indicates that the UE shall apply the given parameters for compressed mode operations. The UE shall return a 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~~ including cell 4 ~~be the measurement object for~~ into the IE "inter-frequency cell info" ~~type measurement~~. The IE "CHOICE erporting criteria" in this message is set to "periodic reporting criteria ~~on"~~ ~~is associated with this measurement~~. SS waits for 8 seconds to allow the periodic timer to expire. The UE shall send a MEASUREMENT REPORT message containing IE "inter-frequency cell measurement~~d~~ results" to report ~~of~~ cell 4's ~~measurement reporting quantity~~ RSCP value. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, ~~requesting the UE to switch from uplink and downlink dedicated physical channels to~~ and reconfigures common physical channels. The UE shall return a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_FACH state.

SS modifies the contents of Master Information Block (MIB) and System Information Block (SIB) type 11. In SIB 11, cell 4 is added to the ~~neighbouring~~ cells listed in the "inter-frequency cell info" IE. SS transmit SYSTEM INFORMATION CHANGE INDICATION message to UE. SS waits for 8 seconds to detect any ~~possible~~ uplink MEASUREMENT REPORT messages. SS verifies that no MEASUREMENT REPORT message(s) are received as a result of inter-frequency measurements. SS then reconfigures the downlink transmission power settings of cell 1 and cell 4 according to the values stated in columns "T1" of Table 8.4.1.6-1. 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 4, specifying the "cell update cause" IE as "cell re-selection". SS replies with CELL UPDATE CONFIRM message on the downlink DCCH to complete the cell update procedure.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	System Information Block type 11	UE is CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)initially in idle mode and camped onto in cell 1. System Information Block type 11 is modified with respect to the default settings., in order to disable a All measurement and reporting activities are disabled in this message.
2			Void	SS prompts the test operator to trigger an outgoing call for a supported traffic class
3	→		RRC CONNECTION REQUESTVoid	
4	←		RRC CONNECTION SETUPVoid	Uplink and downlink DPCH resources are allocated.
5	→		RRC CONNECTION SETUP COMPLETEVoid	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 remain in CELL_DCH state.
8		←	MEASUREMENT CONTROL	SS indicates that the CPICH RSCP of cell 4 shall be monitored and reported. SS waits for 8 seconds for the reception of MEASUREMENT REPORT message.
9	→		MEASUREMENT REPORT	UE shall transmit this message to report cell 4's CPICH RSCP value.
10		←	PHYSICAL CHANNEL RECONFIGURATION	SS changes the physical channel allocation to configures common physical channels configuration.
11	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_FACH state.
12		←	Master Information Block, System Information Block type 11	SS modifies MIB and SIB 11. Cell 4 is included in the neighbouring cells list for IE "inter-frequency cell info" measurement
13		←	SYSTEM INFORMATION CHANGE INDICATION	SS waits for 8 seconds to verify that no MEASUREMENT REPORT messages are detected on the uplink DCCH.
14				SS changes the power settings for cell 1 and cell 4 according to columns marked "T1" of Table 8.4.1.6-1, and then waits for [x] seconds to allow the UE re-select to a new cell.
15	→		CELL UPDATE	UE shall determine that cell 4 has become the best cell and then perform cell re-selection and transmit this message on the new cellprocedure.
16		←	CELL UPDATE CONFIRM	

NOTE: The value [x] seconds is ~~TBD~~to be calculated from TS 25.133 clause 5.5.2. The maximum allowable time for cell re-selection duration is governed by the requirements in TS 25.304 and TS 25.133.

Specific Message Content

System Information Block Type 11 (Step 1)

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	FALSE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	Not Present

RRC CONNECTION SETUP (Step 4)

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 (Step 5)~~

~~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 FDD~~	~~Not checked.~~
~~- RF capability TDD~~	~~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 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	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	~~TBD~~0
- 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
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	~~8~~4
- TGL1	~~10~~7
- TGL2	~~5~~Not Present
- TGD	~~15~~0
- TGPL1	~~35~~3
- TGPL2	~~35~~Not Present
- RPP	Mode ~~1~~0
- ITP	Mode ~~1~~0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	~~A~~B
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement Identity	15
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- 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~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- Measurement validity	~~Not present~~
- UE state	CELL_DCH
- 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	Check to see if set to 15
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
- Cell synchronisation information	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 absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
Measured Results on RACH	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 Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)".

Master Information Block (Step 12)

Information Element	Value/Remarks
MIB value tag	2

System Information Block type 11 (Step 12)

Information Element	Value/Remarks
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_- quality_measure	CPICH_Ec/No
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink (Nu)	Set to uplink UARFCN for cell 4
- UARFCN downlink (Nd)	Set to downlink UARFCN for cell 4
- Cell info	
- Cell individual offset	Not Present — use default of 0 dB
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the scrambling code of cell 4
- Primary CPICH Tx power	Not Present
- TX diversity indicator	FALSE
- Cells for measurement	Not Present
- Cell selection and re-selection info	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	Not Present

SYSTEM INFORMATION CHANGE INDICATION (Step 13)

Information Element	Value/Remarks
BCCH modification info	
- MIB Value tag	2

CELL UPDATE (Step 15)

Information Element	Value/Remarks
U-RNTI	Check to see if same to value assigned in P3 or P5RRC CONNECTION SETUP message
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 (Step 16)

Use the same message sub-type found in 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 4's RSCP value in the IE "inter-frequency cell measured results".

After step 11 the UE shall stop sending MEASUREMENT REPORT messages, which contain inter-frequency measured results for cell 4's CPICH RSCP value.

After step 14 the UE shall transmit CELL UPDATE message on the uplink CCCH of cell 4, and the "cell update cause" IE shall be set to ~~to inform that a~~ "cell reselection" ~~to cell 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~~ After transiting from CELL_FACH state to CELL_DCH state, the UE shall ~~resume~~ retrieve each set of measurement control information of measurement type "intra-frequency", ~~measurement if it has previously stored such a measurement context in CELL_DCH state, and~~ if the~~is~~ measurement ~~context~~ control information has "measurement validity" IE set to ~~is indicated to be resume in~~ "CELL_DCH" ~~state. The UE shall also re-start the associated reporting activities for the resumed intra-frequency measurement.~~ If the UE has performed a cell reselection whilst out of CELL_DCH state and that the cell reselection has occurred after the storage of measurement control information, the UE shall ~~not re-start~~delete the stored intra-frequency measurement information~~previously designated to be resumed in CELL_DCH state~~.

~~In the case when the UE is not assigned any measurement tasks~~If the UE has no stored intra-frequency measurements applicable to CELL_DCH state, it shall continue to monitor the list of cells in IE "intra-frequency ~~neighbouring~~ cell~~s~~ info" stated in System Information Block type 11 or 12 messages. It shall transmit MEASUREMENT REPORT messages when the reporting criteria in IE "intra-frequency measurement reporting criteria" ~~(if specified~~ in System Information Block type 11 or 12 messages~~)~~ are ~~met~~fulfilled. When in CELL_DCH state, the UE shall override existing measurement and reporting contexts obtained from System Information Block type 11 or 12 messages, if a MEASUREMENT CONTROL message is received. The UE shall start to use the new measurement and reporting parameters received in the MEASUREMENT CONTROL message.

Reference

3GPP TS 25.331, clause 8.4.1.7.1

8.4.1.7.3 Test Purpose

To confirm that UE ~~resumes~~ retrieves stored measurement control information for intra-frequency measurement~~s~~ measurement type with "measurement validity" assigned to "CELL_DCH", ~~and the associated reporting when~~after it enters CELL_DCH state from CELL_FACH state~~, and that such measurement contexts (and optionally, the reporting context) have been stored for resumption in CELL_DCH state~~. To confirm that the UE continues to monitor the ~~intra-frequency~~neighbouring cells listed "intra-frequency cell info" IE in the System Information Block type 11 or 12 messages, if no ~~previously assigned~~ intra-frequency measurements applicable to CELL_DCH are ~~present~~stored. To confirm that the UE transmits MEASUREMENT REPORT messages if reporting ~~conditions~~criteria stated in IE "intra-frequency measurement reporting criteria" in System Information Block type 11 or 12 messages ~~have been satisfied~~are fulfilled. To confirm that a MEASUREMENT CONTROL message received in CELL_DCH state overrides the measurement and associated reporting contexts maintained in the UE by virtue of System Information Block type 11 or 12 messages.

8.4.1.7.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1, cell 2 and cell 3 are active.~~The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.7-1. The table is found in "Test Procedure" clause.~~

UE: PS-DCCH+DTCH_FACH (state 6-11).~~CS-CELL_FACH_DCCH (state 6-6) or PS-CELL_FACH_DCCH (state 6-8) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.~~

Test Procedure

Table 8.4.1.7-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.7-1

Para-meter	Unit	Cell 1		Cell 2		Cell 3	
		T0	T1	T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1		Ch. 1	
CPICH EcRSCP	dBm /3.84 MHz	-7260	-85122	-7370	-7360	-7480	-7480

The UE is brought to CELL_FACH state in cell 1, after it has successfully executed procedure P8 or P10 (depending on the CN domain supported by the UE) as specified in clause 7.4 of TS 34.108. System Information Block type 12 message is changed with respect to the default message contents, specifying thatwith cell 2 is to be included in the neighbouring cell list for IE "intra-frequency cell info"measurement. Event 1e is selected in IE "Reporting information for state CELL_DCH", and "Intra-frequency measurement quantity" is set to CPICH RSCP.

SS send a RADIO BEARER RECONFIGURATION message to UE, allocating and configures dedicated physical channels on both uplink and downlink directions. Upon receiving such a message, tThe UE shall move to CELL_DCH state and then return RADIO BEARER RECONFIGURATION COMPLETE message and then move to CELL_DCH state. The UE shall send MEASUREMENT REPORT messages to indicate that thecontaining IE "mMeasured results" to report ofcell 2's CPICH RSCP value and IE "event results" to report triggering of event type "1e", as the measurement quantity has exceeded the threshold value in System Information Block type 12 messages. After receiving the MEASUREMENT REPORT messages, SS transmits a MEASUREMENT CONTROL message in which it specifies that with only cell 3 included in the IE "intra-frequency cell info" measurement and IE "CHOICE reporting criteria" set to "periodic reporting" for cell 3 's CPICH RSCP shall be performed. After receiving such a message, the UE shall transmit another set of MEASUREMENT REPORT messages. SS verifies that only measurement readings for cell 3 's CPICH RSCP are included report in IE "cell measured results" in these messages.

Next, SS sends PHYSICAL CHANNEL RECONFIGURATION message to UE. In this message, the physical channel resources are switched toSS configures common physical channels PRACH for both the uplink and S-CCPCH for the downlink directions. The UE shall transit to CELL_FACH state and then reply with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE and transits to CELL_FACH state. SS waits for 16 seconds and checks the uplink RACH to confirm that no MEASUREMENT REPORT messages are received. SS transmits MEASUREMENT CONTROL message on the downlink DCCH. 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 IE is present and "UE state" = "CELL_DCH". SS waits for 16 seconds, verifies that no MEASUREMENT REPORT messages are detected on the uplink DCCH., before SS sendsing another RADIO BEARER RECONFIGURATION message, allocatingand configures dedicated physical channels to the UE. The UE shall then return to CELL_DCH state, transmit a RADIO BEARER RECONFIGURATION COMPLETE message and start to monitor cell 2the neighbour cell specified by the SS in the latest MEASUREMENT CONTROL message while the UE was previously in CELL_FACH state. The UE shall also 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 using MEASUREMENT CONTROL message to release measurement control information stored in "measurement identity" = 12stop performing measurements and generation of reports for cell 2 CPICH RSCP. Thereafter, SS verifies that no MEASUREMENT REPORT messages are detected on the uplink DCCH. 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 105 (see specific message content).

In the next sequence, SS dispatches transmits a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH,. In this message, and configures common physical channel are assigned to the UE. The UE shall transit to CELL_FACH state and then respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then transit to CELL_FACH state. SS monitor the uplink DCCH once more to verify that no MEASUREMENT REPORT messages are detected. SS modifies the contents of Master Information Block and System Information Block type 12 messages, and then send SYSTEM INFORMATION CHANGE INDICATION message to UE. This is followed by a reconfiguration of the downlink transmission power of the respect cells according to the

settings in columns "T1" in Table 8.4.1.7-1. SS starts timer T305 and then waits for it to expire. The UE shall discover an "out-of-service" condition and initiate a cell re-selection procedure. This is verified in the SS when a CELL UPDATE message is received on the uplink CCCH with the "cell update cause" IE set to "cell reselection". SS transmits a CELL UPDATE CONFIRM message on the DCCH to end the cell update procedure. Next, SS sends a RADIO BEARER RECONFIGURATION message on the downlink DCCH, assigning dedicated physical channels in both uplink and downlink directions. The UE shall respond with a RADIO BEARER RECONFIGURATION COMPLETE message and then return to CELL_DCH 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 PS-DCCH+DTCH_FACH (state 6-11) CELL_FACH in cell 1, after having successfully executed procedure P8 or P10, depending on the supported CN domain. Refer to clause 7.4 of TS 34.108 for details. System Information Block type 12 messages are changed with respect to the default contents according to the descriptions in "Specific Message Contents" clause.
2		←	RADIO BEARER RECONFIGURATION	Allocates SS configures dedicated physical channels.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	UE shall move to CELL_DCH state.
4	→		MEASUREMENT REPORT	Reports cell 2's CPICH RSCP measurement value.
5		←	MEASUREMENT CONTROL	Specifies Only cell 3 as the measurement object for is included in the IE "intra-frequency measurementcell info".
6	→		MEASUREMENT REPORT	UE shall report the estimated value for cell 3's CPICH RSCP reading in IE "cell measured results" only.
7		←	PHYSICAL CHANNEL RECONFIGURATION	Allocates SS configures PRACH and S-CCPCH physical channels.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
9				SS waits for 16 seconds and checks that no MEASUREMENT REPORT messages are sent by UE.
10		←	MEASUREMENT CONTROL	SS instructs the UE to perform setup intra-frequency measurement and reporting for cell 2. These activities shall be resumed if the UE subsequently transits Measurement validity" IE is set to CELL_DCH state again.
11				SS once again waits for 16 seconds and verifies that no MEASUREMENT REPORT messages are sent by UE.
12		←	RADIO BEARER RECONFIGURATION	SS configures Ddedicated physical channels are assigned to the UE in this message.
13	→		RADIO BEARER RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
14	→		MEASUREMENT REPORT	UE begins to report cell 2's measured results for CPICH RSCP again.
15		←	MEASUREMENT CONTROL	Terminate all the intra-frequency measurement and reporting activitiesy related to cell 2"measurement identity" = 12.

Step	Direction UE	Direction SS	Message	Comment
16				SS waits for 16 seconds and verifies that UE stop transmitting MEASUREMENT REPORT messages.
17		←	MEASUREMENT CONTROL	This message is the same as in step 5
18		←	PHYSICAL CHANNEL RECONFIGURATION	Allocates common physical channels.
19	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
20				SS checks that no MEASUREMENT REPORT messages are received.
21		←	Master Information Block System Information Block type 12	System Information Block type 12 messages are modified to include cell 2 and cell 3 into neighbouring cells list for intra-frequency type measurements. ~~SS reconfigures the downlink transmission power settings for cell 1 to cell 3 according to columns "T1" in Table 8.4.1.7-1, runs timer T305, and then waits until T305 expires.~~
21a		←	SYSTEM INFORMATION CHANGE INDICATION	SS reconfigures the downlink transmission power settings for cell 1 to cell 3 according to columns "T1" in Table 8.4.1.7-1, runs timer T305, and then waits until T305 expires.
22	→		CELL UPDATE	UE shall re-selects to cell 2 and then perform a cell update procedure.
23		←	CELL UPDATE CONFIRM	UE shall stay in CELL_FACH state.
24	→		RADIO BEARER RECONFIGURATION	Dedicated physical channels are assigned to the UE in this message.
25		←	RADIO BEARER RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
26				SS checks that no MEASUREMENT REPORT messages are received on uplink DCCH.

Specific Message Content

System Information Block type 12 (Step 1)

Information Element	Value/Remark
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	10
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present ~~– use default values~~
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	0
- Filter Coefficient	CPICH RSCP
- Measurement quantity	Not Present
- Intra-frequency measurement for RACH reporting	No report
- Maximum number of reported cells on RACH	
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	No report
- SFN-SFN observed time difference reporting indicator	FALSE
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	
- Reporting quantities for monitored set cells	No report
- SFN-SFN observed time difference reporting indicator	FALSE
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	TRUE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	Not present
- Reporting quantities for detected cells	Intra-frequency measurement reporting criteria
- CHOICE report criteria	
- Parameter required for each event	1e
- Intra-frequency event identity	Not Present
- Triggering condition 1	Monitored set cells
- Triggering condition 2	Not present
- Reporting range	Not present
- Cells forbidden to affect reporting	FDD
- CHOICE Mode	
- Primary CPICH Info	Set to the scrambling code of cell 2
- Primary scrambling code	Not present
- W	0 dB
- Hysteresis	-~~79~~ 80 dBm
- Threshold used frequency	Not present
- Reporting deactivation threshold	Not present
- Replacement activation threshold	0

Information Element	Value/Remark
- Time to trigger	Infinity
- Amount of reporting	16 seconds
- Reporting Interval	
- Reporting cell status	Report cells within monitored set cells on used
- CHOICE reported cells	frequency
	1
- Maximum number of reported cells	Not Present
- Inter-frequency measurement system information	
information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
information	Not Present
- UE internal measurement system information	

RADIO BEARER RECONFIGURATION (Step 2, Step 12 and Step 24)

Use the same message type found in Annex A, with condition set to A4.

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is present and set to cell identity of cell 2Check to see if this IE is
- SFN-SFN observed time difference	absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional measured results	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 measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step 5 and Step 17)

Information Element	Value/Remark
Measurement Identity	1~~1~~0
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present
- Cells for measurement	
- Intra-frequency cell id	~~Set to id of cell~~ 3
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	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 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range	Not Present
- Cells forbidden to affect Reporting range	Not Present
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 3
- W	Not Present
- Hysteresis	0 dB
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- ~~Reporting~~ Threshold used frequency	-~~81~~ 90 dBm
- Time to Trigger	0

Information Element	Value/Remark
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	
- CHOICE reported cells	Report cells within monitored set cells on used frequency
- Maximum number of reported cells	1
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10~~1~~
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is present and set to cell identity of cell 3
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional measured results	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 measurement 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 18)

Use the same message sub-type found in Annex A, which is entitled "Packet to CELL_FACH from CELL_DCH in PS".

MEASUREMENT CONTROL (Step 10)

Information Element	Value/Remark
Measurement Identity	12
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra- frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present
- Cells for measurement	
- Intra-frequency cell id	~~Set to id of~~ cell 2
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	
- UE state	CELL_DCH
- CHOICE report criteria	Intra-frequency measurement criteria
- Parameters required for each event	
- Intra-frequency event identity	1e
- Triggering condition 1	Not Present
- Triggering condition 2	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	0 dB
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- ~~Reporting~~ Threshold Used Frequency	-80 dBm
- Time to Trigger	0

Information Element	Value/Remark
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	
- CHOICE reported cell	Report cells within monitored set cells on used frequency
- Maximum number of reported cells	1
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 14)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 12
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is present and set to cell identity of cell 2Check to see if this IE is absent
- SFN-SFN observed time difference	
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional measured results	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 measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step 15)

Information Element	Value/Remarks
Measurement Identity	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

Master Information Block (Step 21)

Information Element	Value/Remarks
MIB Value Tag	2

System Information Block type 12 (Step 21)

Information Element	Value/Remark
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_-quality_measure	CPICH_Ec/No
- Intra-frequency measurement system information	~~13~~
- Intra-frequency measurement identity	~~Not Present~~13
- Intra-frequency cell info list	*Cell 2 and Cell 3 are added*
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- 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
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present – use default values
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present – use default values
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- 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	CPICH RSCP
- Measurement reporting mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting / Event Triggering Report Mode	Periodic Reporting
- CHOICE report criteria	Perioidical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	250 msec
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

CELL UPDATE (Step 22)

Information Element	Value/Remarks
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'
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 23)

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 MEASUREMENT REPORT messages.

After step 5 the UE shall delete all measurement and reporting contexts obtained from System Information Block type 12 messages. It shall transmit MEASUREMENT REPORT messages which contain measured results of cell 3's CPICH RSCP value only

After step 9 and step 11 the UE shall not transmit MEASUREMENT REPORT messages, which pertain to intra-frequency type measurement reporting.

After step 13 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 messages, containing measured results of cell 2's CPICH RSCP value.

After step 15 the UE shall stop measurement activities pertaining to periodic reporting of cell 2's CPICH RSCP, no MEASUREMENT REPORT messages shall be detectable by the SS on the uplink DCCH.

After step 21 the UE shall re-select to cell 2 and initiate a cell update procedure. SS shall receive a CELL UPDATE message on the uplink CCCH of cell 2, with the "cell update cause" IE stated as "cell re-selection".

After step 25 the UE shall not resume measurements and any associated reporting activities for cell 3's CPICH RSCP, 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~~ assigned in the IE "inter-frequency cell info" in System Information Block type 11 or 12 messages. If the UE has ~~a previously~~ stored measurement control information of type "inter-frequency" ~~measurement context marked as 'resume' and~~ for which the IE "measurement validity" is present and the IE "UE state for reporting" has been assigned to "CELL_DCH", it shall re~~instate~~sume the stored measurement ~~and associated~~ reporting activities after it has re-entered CELL_DCH state from CELL_FACH state. The UE shall ~~be able to start or terminate~~ activate or deactivate inter-frequency measurements by decoding the "DPCH compressed mode status info" IE in MEASUREMENT CONTROL messages.

Reference

3GPP TS 25.331 clause 8.4.1.7.2, 8.4.1.3

8.4.1.8.3 Test Purpose

To confirm that the UE ~~erases all~~ stop monitoring the list of cells assigned in the IE "inter-frequency cell info" ~~measurement contexts received from~~in System Information Block type 11 or 12 ~~while in~~when it transits from CELL_FACH state~~, when it moves~~ to CELL_DCH state. To confirm that the UE resumes inter-frequency measurements and reporting stored ~~previously in the UE~~ for which the measurement control information has IE "measurement validity" assigned to the value "CELL_DCH", after it re-enters CELL_DCH state from CELL_FACH 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

System Simulator: 3 cells – Cells 1, cell ~~2~~4 and cell ~~3~~5 are active. ~~The initial configurations of the 3 cells in the SS shall follow the values indicated in table 8.4.1.8-1. The table is found in "Test Procedure" clause.~~

UE: 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

Table 8.4.1.8-1 illustrates the downlink power to be applied for the 3 cells in this test.

Table 8.4.1.8-1

Para-meter	Unit	Cell 1	Cell 4	Cell 5
UTRA RF Channel Number		Ch. 1	Ch. 2	Ch. 2
CPICH Ec~~RSCP~~	dBm/3.84MHz	-~~70~~60	-~~73~~75	-~~74~~75

The UE is in CELL_DCH state in cell 1~~., after successfully executing procedures P11 or P13 as specified in clause 7.4 of TS 34.108. Next,~~ SS transmits MEASUREMENT CONTROL message to ~~request the UE to perform~~ add cell 5 into the IE "inter-frequency cell info"~~measurements for cell 5~~. In the MEASUREMENT CONTROL message, ~~T~~the parameters of the IE "inter-frequency measurement reporting criteria" are as follow: event-triggered with event identity ='2c', reporting quantity = "CPICH RSCP", threshold for non-used frequency = '-85 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 present and "UE state" 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.

~~Following this action,~~ SS sends a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH and ~~commands the UE to switch from dedicated physical channels to~~configures PRACH and S-CCPCH physical channels. The UE shall reconfigure itself to receive and transmit using the new common physical channels assigned, and send PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH. SS ~~then~~modifies the content of Master Information Block and System Information Block type 12 messages, such that cell 4 is ~~included~~ added in the list of ~~neighbouring~~ cells ~~to be monitored for~~assigned in the IE "inter-frequency cell info"~~measurements~~. SS transmits SYSTEM INFORMATION CHANGE INDICATION message to UE. Once again, SS verifies that the UE does not transmit MEASUREMENT REPORT messages in the uplink direction.

SS sends PHYSICAL CHANNEL RECONFIGURATION message, and ~~to allocate~~configures dedicated physical ~~channels to the UE~~. In this message, SS commands the UE to start applying compressed mode mechanism for DPCH. The UE shall move to CELL_DCH state and then reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~and then move to CELL_DCH state~~. SS waits for 10 seconds. The UE shall transmit 1 MEASUREMENT REPORT message, containing the selected frequency quality estimate (in this case CPICH RSCP) of cell 5. The UE shall also report the triggering of event '2c' in the IE "Event results" of MEASUREMENT REPORT message. SS verifies that this message does not contain measured results for cell 4. ~~After sending this message, the UE shall not transmit any more MEASUREMENT REPORT messages.~~

SS ~~modifies the reporting criteria by~~ transmit~~ting~~ 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 5 using~~ modifies the measurement control information for measurement identity = "14" and set IE "CHOICE reporting criteria" to "periodic reporting criteria". ~~mechanism. Upon receiving this message, t~~The UE shall transmit MEASUREMENT REPORT message~~s~~ 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, with "measurement validity" IE present and "UE state" set to "CELL_DCH".
3				SS checks that no MEASUREMENT REPORT messages are detected on the uplink DCCH.
4	←		PHYSICAL CHANNEL RECONFIGURATION	SS ~~allocates~~ configures PRACH and S-CCPCH physical resources.
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move~~s~~ to CELL_FACH state.
6	←		Master Information Block System Information Block type 12	SS modifies MIB and SIB 12 in order to include cell 4 into the ~~neighbour~~ list of cells ~~list for~~ in IE "inter-frequency cell info"~~measurements~~.
7	←		SYSTEM INFORMATION CHANGE INDICATION	After SS transmits this message, SS confirms that there are no transmissions of MEASUREMENT REPORT message in the uplink direction.
8	←		PHYSICAL CHANNEL RECONFIGURATION	SS ~~allocates~~ configures dedicated physical channels ~~and specifies~~with compressed mode parameters
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move~~s~~ to CELL_DCH state.
10	→		MEASUREMENT REPORT	UE shall resume inter-frequency measurement task for cell 5 and ~~transmit this message to~~ report the measured CPICH RSCP value for cell 5.
11	←		MEASUREMENT CONTROL	SS changes the reporting criteria for cell 5 to 'periodic reporting'
12	→		MEASUREMENT REPORT	UE shall begin to transmit this message at 2 seconds interval.

Step	Direction		Message	Comment
	UE	SS		
13		←	PHYSICAL CHANNEL RECONFIGURATION	SS deactivates the currently used pattern sequence for compressed mode operation.
14	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE stays in CELL_DCH state. SS verifies that no MEASUREMENT REPORT messages are received.
15		←	MEASUREMENT CONTROL	SS activates the pattern sequence stored by the UE.
16	→		MEASUREMENT REPORT	SS checks that MEASURE-MENT REPORT messages are received at 2 seconds interval.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark

Measurement Identity	14
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	
- Frequency info	~~Set to id of cell~~ 5
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 5
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 5
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 5
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 5
- 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~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- Measurement validity	
- 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	1.0 dB
- Time to trigger	10 seconds
- Reporting cell status	~~Not Present~~
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- Parameters required for each non-used frequency	
- Threshold non used frequency	-85 dBm
- W non-used frequency	0.0
DPCH compressed mode status info	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the same message sub-type found in Annex A titled "(Packet to CELL_FACH from CELL_DCH in PS)".

Master Information Block (Step 6)

Information Element	Value/Remark
Value Tag	2

System Information Block type 12 (Step 6)

Information Element	Value/Remark
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	TRUE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE inter-frequency cells removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present – use default values
- Cells for measurement	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 8)

Use the same message sub-type found in 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	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset $P_{Pilot\text{-}DPDCH}$	~~TBD~~0
- 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
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	~~8~~4
- TGL1	~~10~~7
- TGL2	~~5~~Not Present
- TGD	~~15~~0
- TGPL1	~~35~~3
- TGPL2	~~35~~Not Present
- RPP	Mode ~~1~~0
- ITP	Mode ~~1~~0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	~~A~~B
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity	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 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 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 it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 5
- 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
Measured Results on RACH	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 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 5
- Non frequency related measurement event results	
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 5

MEASUREMENT CONTROL (Step 11)

Information Element	Value/Remark
Measurement Identity	14
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	~~Set to id of cell~~ 5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 5
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 5
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 5
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 5
- 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~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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 12, 16)

Information Element	Value/Remarks
Measurement identity	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 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 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 is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 5
- 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
- CFN-SFN observed time difference	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message transmitted in step 8 with the following modifications:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- TGCFN	Not Present
- Transmission gap pattern sequence configuration parameters	Not Present

MEASUREMENT CONTROL (Step 15)

Information Element	Value/Remark
Measurement Identity	~~Any number except~~ 14
Measurement Command	Modify
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Not Present
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

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 9 the UE shall transmit a MEASUREMENT REPORT message, containing the IE "measured results" ~~for reporting~~ cell 5's CPICH RSCP value. The UE shall also report the triggering of event '2c' by including IE "Event

results" in the MEASUREMENT REPORT message. The UE shall not transmit any MEASUREMENT REPORT messages pertaining to cell 4's measurements.

After step 11 the UE shall send MEASUREMENT REPORT messages, which comprisescontaining cell 5's CPICH RSCP measured value in IE "Measured results" at 2 seconds interval. The "Event results" IE shall be omitted in these messages.

After step 14 the UE shall not transmit any MEASUREMENT REPORT messages.

After step 15 the UE shall resume the transmission of MEASUREMENT REPORT messages with identical contents as in those received after step 911.

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 instructs the UE to perform a measurement that is not supported in by the UE, the UE shall keep the measurement configuration that was valid before the MEASUREMENT CONTROL message was received. Then the UE shall transmit a MEASUREMENT CONTROL FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.4.1.4

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 instructs the UE to perform an unsupported measurement by sending a MEASUREMENT CONTROL message. To confirm that the UE retains its existing valid measurement configuration, after receiving a MEASUREMENT CONTROL message containing an unsupported measurement.

8.4.1.9.4 Method of test

Initial Condition

System Simulator: 1cell

UE: CS-DCCH+DTCH_DCH (State 6-95) or PS-DCCH+DTCH_DCH (State 6-107) 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-RAT measurement capability. The mandatory type(s) of measurement capability that shall be implemented by the UE is to be discussed]

Test Procedure

The UE is in the CELL_DCH state. SS sends MEASUREMENT CONTROL message to command the UE to perform internal measurement and reporting for UE transmitted power. The UE shall transmit MEASUREMENT REPORT messages on DCCH at 1 second interval. The SS transmits a MEASUREMENT CONTROL message which includes parameters that requests forto configure inter-RAT measurements. As Tthe UE under test does not support inter-RAT measurement, it shall transmit a MEASUREMENT CONTROL FAILURE message on the uplink DCCH using AM RLC. SS verifies that the UE does not stopcontinues to transmit MEASURMENT REPORT messages on uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state.
2	←		MEASUREMENT CONTROL	UE internal measurement and reporting is requested.
3	→		MEASUREMENT REPORT	Contains estimated reading for UE transmitted power.
4	←		MEASUREMENT CONTROL	Inter-RAT measurements are requested in this message
5	→		MEASUREMENT CONTROL FAILURE	~~Which is set to~~The value "unsupported measurement" is set in IE "failure cause".
6	→		MEASUREMENT REPORT	SS verifies that UE continue to send this message on uplink DCCH.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	~~Not Present~~
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- CHOICE mode	FDD
- Measurement quantity	UE Transmitted Power
- Filter Coefficient	0
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	1000 msec
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 3 and Step 6)

Information Element	Value/Remark
Measurement Identity number	Check to see if it's set to '1'
Measured Results	
- CHOICE measurement	Check to see if it's set to "UE internal measured results"
- CHOICE mode	Check to see if it's set to "FDD"
- UE Transmitted Power	Check to see if the reported power is compatible with RF class
- UE Rx-Tx report entries	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured results	Check to see if it is absent
Event results	Check to see if it is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
RRC transaction identifier	Select an arbitrary an integer between 0 and 3
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-RAT measurement
- Inter-RAT cell info list	
- CHOICE inter-RAT cell removal	Remove no inter-RAT cells
- New inter-RAT cells	
- Inter-RAT cell id	1
- CHOICE *Radio Access Technology*	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not Present
- BSIC	Set to the BSIC code of cell 2
- BSIC ARFCN	Set to the ARFCN assigned to cell 2
- Output power	Not Present
- Cells for measurement	
- Inter-RAT cell id	~~Set to id of cell~~ 2
- Inter-RAT measurement quantity	
- CHOICE system	GSM
- Measurement quantity	GSM Carrier RSSI
- Filter Coefficient	0
- BSIC verification required	Not required
- Inter-RAT reporting quantity	
- UTRAN estimate quantity	FALSE
- CHOICE system	GSM
- Pathloss	FALSE
- Observed time difference to GSM cell	FALSE
- GSM Carrier RSSI	TRUE
- Reporting cell status	Not Present
- CHOICE report criteria	No reporting
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remarks
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 4.
Failure cause	Check if it is set to "Unsupported measurement"

8.4.1.9.5   Test requirement

After step 2 the UE shall transmit a MEASUREMENT REPORT messages at 1 second interval. In these messages, the IE "CHOICE measurement" shall be set to "UE internal measured results", and it shall contain the measured UL transmitted power reading in IE "UE Transmitted Power".

After step 4 the UE shall ~~identify the unsupported measurement element in the MEASUREMENT CONTROL message and~~ transmit a MEASUREMENT CONTROL FAILURE message. In this message, the value "unsupported measurement" shall be specified in IE "failure cause".

After step 5 the UE shall continue to transmit MEASUREMENT REPORT messages on the uplink DCCH, with the contents of the messages identical to that received by SS after step 2. ~~to report an estimation of its transmission power~~.

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 an invalid MEASUREMENT CONTROL message it shall reply with a MEASUREMENT CONTROL FAILURE message stating the appropriate protocol error information. It shall ~~maintain the~~ continue its ongoing processes and procedures ~~monitoring and measurement reporting mechanism~~ as ~~if~~ ~~in before~~ the MEASUREMENT CONTROL message has not been received.

Reference

3GPP TS 25.331 clauses 8.4.1.5 and 9.2~~5~~

8.4.1.10.3 Test Purpose

To confirm that the UE ~~does not change its current monitoring and measurement settings~~continues its ongoing processes and procedures after it has received an ~~illegal~~ invalid MEASUREMENT CONTROL message. To confirm that the UE ~~continue to perform its ongoing measurement reporting operations after~~ transmit~~s~~ting MEASUREMENT CONTROL FAILURE message~~ to the SS~~, after it has received an invalid MEASUREMENT CONTROL message.

8.4.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (State 6-9~~5~~) or PS-DCCH+DTCH_DCH (State 6-10~~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 waits for the UE to transmit MEASUREMENT RERORT message on the uplink DCCH ~~with the allocated measurement identity to arrive~~. After the MEASUREMENT REPORT message is received, SS transmits an invalid MEASUREMENT CONTROL message again. ~~When t~~The UE ~~receives this message, it~~ shall reply with MEASURMENT CONTROL FAILURE message as it has detected a protocol error. It shall ~~not cease~~continue to report its ~~own~~UL 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 transmitted power".
3	→		MEASUREMENT REPORT	UE shall send this message periodically at 32 seconds interval
4	←		MEASURMENT CONTROL	See message content.

Step	Direction		Message	Comment
	UE	SS		
5	→		MEASUREMENT CONTROL FAILURE	UE shall ~~maintain~~ continue its current measurement and reporting ~~contexts~~ processes and procedures after sending this message.
6	→		MEASUREMENT REPORT	UE shall continue to transmit this message to the SS at 32 seconds interval.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
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 and Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
CHOICE measurement	Check to see if set to "UE internal measurement results"
- CHOICE mode	Check to see if it's set to "FDD"
- 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
Measured Results on RACH	Check to see if this IE is absent
Additional Measured results	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
All IEs	Not Present
~~RRC transaction identifier~~	~~Selects an arbitrary integer between 0 and 3~~
~~Measurement Identity~~	~~3~~
~~Measurement Command~~	~~Setup~~
~~Measurement Reporting Mode~~	~~Not Present~~
~~Additional measurements list~~	~~Not Present~~
~~CHOICE measurement type~~	~~Not Present~~
~~DPCH compressed mode status info~~	~~Not Present~~

MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remark
~~RRC transaction identifier~~	~~Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 4.~~
Failure cause	Check to see if set to "protocol error"
Protocol error information	Check to see if set to "~~Conditional information element error~~ASN.1 violation or encoding error"

8.4.1.10.5 Test Requirement

After step 4 the UE shall transmit MEASUREMENT CONTROL FAILURE message, stating the IE "failure cause" as "protocol error" and IE "protocol error information" as "~~conditional information element error~~ASN.1 violation or encoding error".

After step 5 the UE shall continue to send MEASUREMENT REPORT, with the measurement identity number set to 3 and "measured~~ment~~ results" IE ~~for~~ containing measured readings of UE Tx power, 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 / inter-RAT measurements corresponding to the deleted transmission gap pattern sequence. ~~Finally, t~~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 8.2.11.2, clause 8.6.6.15

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 it receives a RADIO BEARER RECONFIGURATION message which 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 cCell 1 and cell 4 are active. See Table 8.4.1.11-1 for the power settings.

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

Table 8.4.1.11-1 illustrates the downlink power to be applied for the 2 cells in this test case.

Table 8.4.1.11-1

Parameter	Unit	Cell 1	Cell 4
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH EcRSCP	dBm/ 3.84 MHz	-7460	-7870

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. 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, tThe UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 4's measurement results the RSSI value of UTRA carrier in which cell 4 resides. 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 "GSM carrier RSSI"cell 4's CPICH 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-RAT inter-frequency measurement tasks associated with TGPSI=2. However, tThe UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1				UE is initially in CELL_DCH state.
2		←	MEASUREMENT CONTROL	SS Sstarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. SS commands UE to Rreport the UTRA RSSI in the UARFCN in which cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4		←	MEASUREMENT CONTROL	SS Aassigns inter-RAT inter-frequency measurements for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".
5		←	RADIO BEARER RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	IE "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	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell~~s~~ for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- 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	TRUE
- Frequency quality estimate	~~TRUE~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

Information Element	Value/Remarks
Measurement identity	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 present
- 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
- Cell synchronisation information	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 absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	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	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
CHOISE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOISE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	inactive
- TGCFN	Not present

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
Inter-frequency measurement quantity	Set to id of cell 4
- 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	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS Status Flag	Inactive
- TGCFN	Not Present

RADIO BEARER RECONFIGURATION (Step 5)

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
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI MeasurementFDD Measurement
- TGPRC	62
- TGSN	84
- TGL1	107
- TGL2	5
- TGD	150
- TGPL1	353
- TGPL2	35
- RPP	Mode 10
- ITP	Mode 10
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	AB
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
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-RAT 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 UTRA RSSI value for the UARFCN in which cell 4 resides. However, noThe MEASUREMENT REPORT messages sent by the UE shall not containing the CPICH RSCP readings for cell 4 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 / inter-RAT measurements corresponding to the deleted transmission gap pattern sequence. Finally, tThe 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 8.2.11.2, clause 8.6.6.15

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 it receives a TRANSPORT CHANNEL RECONFIGURATION message which 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 cCell 1 and cell 4 are active. See Table 8.4.1.11-1 in clause 8.4.1.11.4 for the power settings.

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

For this test case, the downlink transmission power settings shall follow that specified in Table 8.4.1.11-1 in clause 8.4.1.11.4.

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. 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, tThe UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 4's measurement results. the RSSI value of UTRA carrier in which cell 4 resides. 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 "GSM carrier RSSI"cell 4's CPICH 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-RAT inter-frequency measurement tasks associated with TGPSI=2. However, tThe UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides, 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	SS Sstarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. Report the UTRA RSSI in the UARFCN in which cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4	←		MEASUREMENT CONTROL	SS Aassigns inter-RAT inter-frequency measurements for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".
5	←		TRANSPORT CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	IE "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	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
- Inter-frequency measurement quantity	~~Set to id of cell 4~~
- 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	TRUE
- Frequency quality estimate	~~TRUE~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

Information Element	Value/Remarks
Measurement identity	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 present
- 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
- Cell synchronisation information	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 absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	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	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
CHOISE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOISE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	inactive
- TGCFN	Not present

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	Set to id of cell 4
- 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	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS Status Flag	Inactive
- TGCFN	Not Present

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
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement~~FDD Measurement~~
- TGPRC	62
- TGSN	4~~8~~
- TGL1	7~~10~~
- TGL2	5~~5~~
- TGD	0~~15~~
- TGPL1	3~~35~~
- TGPL2	5~~35~~
- RPP	Mode 0~~Mode 1~~
- ITP	Mode 0~~Mode 1~~
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	~~A~~B
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
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-RAT ~~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 UTRA RSSI value for the UARFCN in which cell 4 resides. ~~However, no~~The MEASUREMENT REPORT messages sent by the UE shall not contain~~ing the~~ CPICH RSCP readings for cell 4 ~~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 / inter-RAT measurements corresponding to the deleted transmission gap pattern sequence. Finally, tThe 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 8.2.11.2, 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 it receives a PHYSICAL CHANNEL RECONFIGURATION message which 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 cCell 1 and cell 4 are active. See Table 8.4.1.11-1 in clause 8.4.1.11.4 for the power settings.

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

For this test case, the downlink transmission power settings shall follow that specified in Table 8.4.1.11-1 in clause 8.4.1.11.4.

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. 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, tThe UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 4's measurement results the RSSI value of UTRA carrier in which cell 4 resides. 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 "GSM carrier RSSI"cell 4's CPICH 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-RAT inter-frequency measurement tasks associated with TGPSI=2. However, tThe UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides, 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	SS Sstarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. SS commands UE to Rreport the UTRA RSSI in the UARFCN in which cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4	←		MEASUREMENT CONTROL	SS Aassigns inter-frequency measurements for for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".
5	←		PHYSICAL CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	IE "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	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	~~Set to id of cell~~ 4
- 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	TRUE
- Frequency quality estimate	~~TRUE~~FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

Information Element	Value/Remarks
Measurement identity	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 present
- 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
- Cell synchronisation information	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 absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	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	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
CHOISE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOISE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	inactive
- TGCFN	Not present

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- 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 downlink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	
Inter-frequency measurement quantity	Set to id of cell 4
- 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	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored cells on non-used frequency
- Maximum number of reported cells	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	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS Status Flag	Inactive
- TGCFN	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 5)

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
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	4~~8~~
- TGL1	7~~10~~
- TGL2	5~~5~~
- TGD	0~~15~~
- TGPL1	3~~35~~
- TGPL2	5~~35~~
- RPP	Mode 0~~Mode 1~~
- ITP	Mode 0~~Mode 1~~
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	~~A~~B
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
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-RAT ~~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 UTRA RSSI value for the UARFCN in which cell 4 resides. ~~However, no~~ The MEASUREMENT REPORT messages sent by the UE shall not contain~~ing~~ the CPICH RSCP readings for cell 4 ~~shall be sent by the UE~~.

8.4.1.14 Measurement Control and Report: Cell forbidden to affect reporting range

8.4.1.14.1 Definition

8.4.1.14.2 Conformance requirement

When event 1A is ordered by the UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message when a primary CPICH measured has entered the specified reporting range. The UTRAN can request that a certain primary CPICH be forbidden to affect the reporting range used for event 1A measurement reporting. However, the UE shall ignore such a request from the UTRAN if two conditions are fulfilled~~satisfied~~ – (a) the primary CPICH concerned is included in the active set, and (b) all cells in the active set are defined as primary CPICHs forbidden to affect the reporting range.

Reference

3GPP TS 25.331 clause 14.1.2.1, clause 14.1.5.4

8.4.1.14.3 Test Purpose

To confirm that the UE reports the triggering of event 1A to the SS, if a primary CPICH currently measured by the UE enters the reporting range ~~(event 1A). The reporting range was specified in a MEASUREMENT CONTROL message received earlier~~. To confirm that the UE ignores ~~SS's request to~~ that a primary CPICH is forbid~~den to affect~~ the ~~updating of~~ reporting range~~,~~ when (a) the primary CPICH concerned is ~~one of the cells currently~~ included in active set and (b) all cells in the active set~~s~~ are ~~marked~~ defined as primary CPICHs forbidden to affect the reporting range.

8.4.1.14.4 Method of test

Initial Condition

System Simulator: 3 cells –- Cell 1, cell 2 and cell 3 are active~~The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.14-1. The table is found in "Test Procedure" clause~~.

UE: CS-DCCH+DTCH_DCH (State 6-9~~5~~) or PS-DCCH+DTCH_DCH (State 6-10~~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

Table 8.4.1.14-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1", "T2"~~,~~ and "T3" ~~and "T4"~~ are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.14-1

Para-meter	Unit	Cell 1					Cell 2					Cell 3				
		T0	T1	T2	T3	~~T4~~	T0	T1	T2	T3	~~T4~~	T0	T1	T2	T3	~~T4~~
UTRA RF Channel Number		Ch. 1					Ch. 1					Ch. 1				
CPICH ~~RSCP~~Ec	dBm /3.84 MHz	-7060	-7060	-7085	-7060	-70	-7685	-72670	-760	-67685	-66	~~Cell 3 is Switched~~ -7270	-7270	-72885	-72870	-72

The UE is initially in CELL_DCH state of cell 1. ~~SS then performs an active set update procedure by sending ACTIVE SET UPDATE REQUEST message on the downlink DCCH. Cell 2 is to be added to the active set, according to the~~

~~content of this downlink message. The UE shall reply with an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH, and include cell 2 to the active set when the activation time specified has elapsed.~~

~~SS configures itself according to the values in columns "T1" shown above.~~ SS ~~then~~ sends a MEASUREMENT CONTROL message ~~to the UE, commanding the start of~~ with cell 1, cell 2 and cell 3 listed in IE "intra-frequency -cell info list"~~measurement for all 3 cells~~. In this message, ~~T~~the IE "CHOICE reporting criteria" is set to "intra-frequency measurement report criteria", with the IE "intra-frequency event identity" ~~is~~ set to ~~event-triggered using event~~ "1A". The IE "reporting range" is set to 5 dB in the MEASUREMENT CONTROL message. The UE shall send a MEASUREMENT REPORT on the uplink DCCH, which contains the IE "Event results" to report that intra-frequency event 1A is triggered by ~~CPICH RSCP reading for~~ cell 3.

SS executes the active set update procedure ~~again~~, requesting that cell 3 be added to the active set ~~this time~~. The UE shall respond with ACTIVE SET UPDATE COMPLETE message on the uplink DCCH and then include~~s~~ cell 3 into its current active set. ~~Following this,~~ SS configures itself according to the values in columns "T1~~2~~" shown above. ~~The UE shall detect that CPICH RSCP of cell 3 has dropped out of the reporting range.~~ The UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH to report the triggering of intra-frequency event 1A. In these messages, the IE "Events results" shall indicate that intra-frequency event 1A is triggered by cell 2. Upon reception of MEASUREMENT REPORT message, SS sends ACTIVE SET UPDATE message to request cell 2 to be added to the active set. The UE shall respond with ACTIVE SET UPDATE COMPLETE message on the uplink DCCH and then include cell 2 into its current active set.

~~Next, SS configures itself according to the values in columns "T3" shown above.~~ SS ~~then~~ sends a MEASUREMENT CONTROL message to command that all cells in the active set are forbidden to update the reporting range for event 1A.

~~Finally,~~ SS configures itself according to the values in columns "T2~~4~~" shown above. ~~The UE shall proceed to update the reporting range as cell 2 has become the strongest cell. Although the CPICH RSCP value of cell 3 has been restored, this value still falls outside the new reporting range. Therefore, t~~The UE shall not transmit a MEASUREMENT REPORT message on the uplink to report the triggering of intra-frequency reporting event 1A. SS reconfigures itself according to the values in column "T3" shown in table 8.4.1.14-1 above. The UE shall transmit MEASUREMENT REPORT message to report triggering intra-frequency event identity 1A, and also to report the CPICH RSCP readings for cell 1, cell 2 and cell 3 in IE "Measured results"

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1				UE is initially in CELL_DCH state in cell 1.
2	←		~~ACTIVE SET UPDATE~~Void	~~SS asks UE to add cell 2 into the active set~~
3	→		~~ACTIVE SET UPDATE COMPLETE~~Void	
4			Void	~~SS configures itself according to the settings stated in column "T1" of Table 8.4.1.14-1.~~
5	←		MEASUREMENT CONTROL	~~SS commands the start of measurement tasks for CPICH RSCP of c~~Cell 1, cell 2 and cell 3~~. All 3 cells~~ are listed in ~~added under~~ IE "Intra-frequency cell info list". The IE "CHOICE reporting criteria" is set to "Intra-frequency measurement reporting criteria" ~~event-triggered using event type~~ and IE "Intra-frequency event identity" is set to "1A", with IE "reporting range" ~~=~~ set to 5 dB.
6	→		MEASUREMENT REPORT	UE shall report that cell 3 has entered the reporting range for intra-frequency reporting event 1A.
7	←		ACTIVE SET UPDATE	~~SS asks~~ UE ~~to~~ shall add cell 3 into the active set
8	→		ACTIVE SET UPDATE COMPLETE	
9				SS configures itself according to the settings stated in column "T1~~2~~" of Table 8.4.1.14-1.
10	→		MEASUREMENT REPORT	~~SS configures itself according to the settings stated in column "T3" of Table 8.4.1.14-1.~~UE shall report that cell 2 has entered the reporting range for intra-frequency reporting event 1A.
10a	←		ACTIVE SET UPDATE	UE shall add cell 2 into the active set
10b	→		ACTIVE SET UPDATE COMPLETE	
11	←		MEASUREMENT CONTROL	SS forbids all cells in active list to affect the reporting range
12				SS configures itself according to the settings stated in column "T2~~4~~" of Table 8.4.1.14-1.
13				~~UE shall ignore the restrictions imposed by the messages received in step 11. It shall update the reporting range.~~ SS verifies that no MEASUREMENT REPORT messages are received in the uplink direction
14				SS configures itself according to the settings stated in column "T3" of Table 8.4.1.14-1.
15	→		MEASUREMENT REPORT	UE shall report that cell 3 has entered the reporting range for intra-frequency reporting event 1A.

Specific Message Contents

ACTIVE SET UPDATE (Step 2)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
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
- 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	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
Radio link removal information	Not Present

ACTIVE SET UPDATE COMPLETE (Step 3 and Step 8)

Information Element	Value/remark
RRC transaction identifier	Check to see if it is set to 0

MEASUREMENT CONTROL (Step 5)

The contents of MEASUREMENT CONTROL message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/Remark
RRC transaction identifier	1
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency
- New intra-frequency info list	~~3 cells are specified – cell 1, cell 2 and cell 3~~
- Intra-frequency cell id	~~0~~1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Intra-frequency cell id	~~1~~2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Intra-frequency cell id	~~2~~3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell for measurement	
- Intra-frequency cell id	~~Set to ids of cell~~ 1, ~~cell~~ 2 and ~~cell~~ 3
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	~~TRUE~~FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	~~FALSE~~TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present

Information Element	Value/Remark
- Reporting cell status	Not present
- Measurement validity	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each events	~~Only 1 event is specified~~
- Intra-frequency event identity	1a
- Triggering conditions 1	Not Present
- Triggering conditions 2	Active set cells and monitored set cells
- Reporting range	16~~5~~.0 dB
- Cells forbidden to affect reporting range	Not Present
- W	0
- Hysteresis	0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	3
- Replacement activation threshold	Not Present
- Time to trigger	0 msec
- Amount of reporting	1
- Reporting interval	0
- Reporting cell status	~~Not Present~~
- CHOICE reported cells	Report cells within monitored set on used frequency
- Maximum number of reported cells	e3
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
RRC transaction identifier	Check to see if set to 1
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	Check to see if set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if set to '1a'
- Cell measurement event results	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3

ACTIVE SET UPDATE (Step 7)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
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
- 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	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
Radio link removal information	Not Present

ACTIVE SET UPDATE COMPLETE (Step 8 and Step 10b)

Information Element	Value/remark
RRC transaction identifier	Check to see if it is set to 0

MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
RRC transaction identifier	Check to see if set to 1
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	Check to see if set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if set to '1a'
- Cell measurement event results	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code for cell 2

ACTIVE SET UPDATE (Step 10a)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
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
- 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	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
Radio link removal information	Not Present

MEASUREMENT CONTROL (Step 11)

The contents of MEASUREMENT CONTROL message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/Remark
RRC transaction identifier	1
Measurement Identity	1
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	Not Present
- Intra-frequency measurement quantity	Not Present
- Intra-frequency reporting quantity	Not Present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each events	*Only 1 event is specified*
- Intra-frequency event identity	1a
- Triggering conditions 1	Not Present
- Triggering conditions 2	Active set cells
- Reporting range	16~~5~~.0 dB
- Cells forbidden to affect reporting range	~~3 cells – cell 1, cell 2 and cell 3~~
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 1
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 2
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 3
- W	0
- Hysteresis	0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	3
- Replacement activation threshold	Not Present
- Time to trigger	0 msec
- Amount of reporting	1
- Reporting interval	0
- Reporting cell status	~~Not Present~~
- CHOICE reported cells	Report cells within active set
- Maximum number of reported cells	e3
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 15)

Information Element	Value/Remarks
RRC transaction identifier	Check to see if set to 1
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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 1
- 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
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Cell synchronisation information	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
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	Check to see if set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if set to '1a'
- Cell measurement event results	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3

8.4.1.14.5   Test requirement

~~After step 2, the UE shall transmit ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to acknowledge the successful addition of cell 2 into the active set. The UE shall be able to communicate with cell 2 in both the uplink and downlink directions after this step.~~

After step 5, the UE shall send a MEASUREMENT REPORT message on the uplink DCCH. The message shall contain the IE "Event results" ~~measurement reading for~~ to report that cell 3~~'s CPICH RSCP~~ has triggered intra-frequency event 1A.

~~After step 7, the UE shall transmit ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to acknowledge the successful addition of cell 3 into the active set. The UE shall be able to communicate with cell 3 in both the uplink and downlink directions after this step.~~After step 9, the UE shall transmit MEASUREMENT REPORT message on the uplink DCCH. The message shall contain IE "Event results" to report tha cell 2 has triggered intra-frequency event 1A.

After step 12, ~~the UE shall ignore the previous restriction imposed for the updating of reporting range. It shall determine that cell 3's RSCP value is not within the updated reporting range. SS verifies that~~ the UE ~~does~~ shall not send ~~a~~ MEASUREMENT REPORT message on the uplink DCCH to report the triggering of intra-frequency event identity 1A. ~~cell 3's RSCP value.~~

After step 14, the UE shall send a MEASUREMENT REPORT message on the uplink DCCH. The message shall contain IE "Event results" to report that cell 3 has triggered intra-frequency event 1A.

8.4.1.18 Measurement Control and Report: Traffic volume measurement for transition from CELL_FACH state to CELL_DCH state

8.4.1.18.1 Definition

8.4.1.18.2 Conformance requirement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- retrieve each set of measurement control information of measurement type "traffic volume" stored;

    - if the optional IE "measurement validity" for this measurement has not been included:

        - delete the measurement;

    - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states except CELL_DCH":

        - stop measurement reporting; and

        - save the measurement to be used after the next transition to CELL_FACH state;

    - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

        - continue measurement reporting;

    - if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "CELL_DCH":

        - resume this measurement and associated reporting;

- if no traffic volume type measurement has been assigned to the UE with a MEASUREMENT CONTROL message when transiting to CELL_DCH state:

    - continue an ongoing traffic volume type measurement, assigned in System Information Block type 11 or System Information Block type 12.

Reference

3GPP TS 25.331 clause 8.4.1.7.4

8.4.1.18.3 Test Purpose

To confirm that the UE performs traffic volume measurements and the associated reporting when it enters CELL_DCH state from CELL_FACH state, and that such measurement contexts (and optionally, the reporting context) valid for CELL_DCH state have been previously stored.

To confirm that the UE shall continue to perform traffic volume measurement listed in the System Information Block type 11 or 12 messages, if no previously assigned measurements are present. The UE shall transmit MEASUREMENT REPORT messages if reporting conditions stated in System Information Block type 11 or 12 messages have been satisfied.

8.4.1.18.4 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

Initially the UE is in CELL_FACH state. MEASUREMENT CONTROL message is sent to the UE to establish traffic volume measurement context with optional IE "measurement validity" is not present. The UE shall perform measurement and reporting as assigned in MEASUREMENT CONTROL message. RADIO BEARER RECONFIGURATION procedure is used to take the UE from CELL_FACH state to CELL_DCH state. While entering CELL_DCH state from CELL_FACH state, the UE shall delete traffic volume measurement contexts if optional IE "measurement validity" is not present. So, in CELL_DCH state UE shall not perform traffic volume measurement and reporting. UE is taken to the CELL_FACH state from CELL_DCH state using RADIO BEARER RECONFIGURATION procedure. The UE shall not send MEASUREMENT REPORT message as measurement context is already deleted.

Similarly behavior of the UE when moved from CELL_FACH state to CELL_DCH state and assigned traffic volume measurement context is present with IE "measurement validity" is set to "All But CELL_DCH state" or "CELL_DCH state" or "All states" is tested.

When the UE is in CELL_FACH state, System Information is modified to assign traffic volume measurement and reporting to the UE. No previously assigned traffic volume measurement contexts are present in the UE. The UE is taken to CELL_DCH state from CELL_FACH state using RADIO BEARER RECONFIGURATION procedure. In CELL_DCH state the UE shall continue traffic volume measurement and reporting as assigned in System Information. Traffic volume measurement and reporting is released by sending MEASUREMENT CONTROL message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MEASUREMENT CONTROL	Optional IE "measurement validity" is not included.
2	→		MEASUREMENT REPORT	
3		←	RADIO BEARER RECONFIGURATION	
4	→		RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall delete measurement context setup by MEASUREMENT CONTROL message (Step 1).
5				SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
6		←	RADIO BEARER RECONFIGURATION	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
8				SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.

9	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "All But CELL_DCH".
10	→	MEASUREMENT REPORT	.
11	←	RADIO BEARER RECONFIGURATION	
12	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall stop traffic volume measurement setup by MEASUREMENT CONTROL message (Step 9).
13			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
14	←	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 9).
15	←	RADIO BEARER RECONFIGURATION	
16	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
17	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "CELL_DCH".
18			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
19	←	RADIO BEARER RECONFIGURATION	
20	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall start traffic volume measurement setup by MEASUREMENT CONTROL message (Step 17).
21	→	MEASUREMENT REPORT	
22	←	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 17)
23	←	RADIO BEARER RECONFIGURATION	
24	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.

25	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "All states".
26	→	MEASUREMENT REPORT	
27	←	RADIO BEARER RECONFIGURATION	
28	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall continue traffic volume measurement setup by MEASUREMENT CONTROL message (Step 25).
29	→	MEASUREMENT REPORT	
30	←	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 25)
31	←	RADIO BEARER RECONFIGURATION	
32	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
33	←	SIB11 modified	Traffic volume measurements and reporting is assigned to Ues
34	→	MEASUREMENT REPORT	
35	←	RADIO BEARER RECONFIGURATION	
36	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall continue traffic volume measurement assigned in System Information (Step 33).
37	→	MEASUREMENT REPORT	
38	←	MEASUREMENT CONTROL	UE shall release measurement context assigned in System Information (Step 33).

Specific Message Content

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	RLC Buffer Payload
- Traffic volume reporting quantity	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Measurement validity	Not Present
- Report criteria	Periodical Reporting Criteria
- Reporting amount	8
- Reporting interval	8 Sec
Measurement reporting mode	
- Transfer Mode	Acknowledged mode
- Periodical or event trigger	Periodic
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 2)

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	0
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer variance	Check to see if this IE is absent
- RB identity	1
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	2
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	3
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	4
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	20
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
Measured results on RACH	Check to see if this IE is absent
Additional measured results	Check to see if this IE is absent
Event results	Check to see if this IE is absent

RADIO BEARER RECONFIGURATION (Step 3, 11, 19, 27, and 35)

Use the same message type found in Annex A with condition set to A4.

RADIO BEARER RECONFIGURATION (Step 6, 15, 23, and 31)

Use the same message type found in Annex A with condition set to A5.

MEASUREMENT CONTROL (Step 9)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Measurement validity	All But CELL_DCH

MEASUREMENT REPORT (Step 10)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	2

MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Release
Measurement reporting mode	Not Present
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT CONTROL (Step 17)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Measurement validity	CELL_DCH

MEASUREMENT REPORT (Step 21)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	3

MEASUREMENT CONTROL (Step 22)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3

MEASUREMENT CONTROL (Step 25)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- UL transport channel identity	RACH
- UL transport channel identity	DCH :1
- UL transport channel identity	DCH : 5
- Measurement validity	All States

MEASUREMENT REPORT (Step 26, and 29)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	4

MEASUREMENT CONTROL (Step 30)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4

System Information Block type 11 (Step 33)

Information Element	Value/Remarks
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_quality	CPICH RSCP
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement ID	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	RLC Buffer Payload
- Traffic volume reporting quantity	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Traffic volume measurement reporting criteria	Not Present
- Measurement validity	Not Present
- Measurement reporting mode	
- Measurement report transfer mode	Acknowledged Mode
- Periodical or event trigger	Periodical
- Report criteria system Information	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	8 seconds
- UE internal measurement system information	Not Present

MEASUREMENT REPORT (Step 34, and 37)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	5

MEASUREMENT CONTROL (Step 38)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	5

8.4.1.18.5   Test Requirement

The UE shall send MEASUREMENT REPORT message in steps 21, 29 and 37. The UE shall not send MEASUREMENT REPORT message in steps 5, 8, and 13.

8.4.1.19 Measurement Control and Report: Traffic volume measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.19.1 Definition

8.4.1.19.2 Conformance requirement

Upon transition from CELL_DCH to CELL_FACH state, the UE shall:

- retrieve each set of measurement control information of measurement type "traffic volume" stored in the UE; and

    - if the optional IE "measurement validity" for this measurement has not been included:

        - delete the associated measurement;

    - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

        - stop measurement reporting;

        - save the associated measurement to be used after the next transition to CELL_DCH state;

    - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

        - continue measurement reporting;

    - if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

        - resume this measurement and associated reporting;

- if no traffic volume type measurements applicable to CELL_FACH states are stored in the UE:

        - store the measurement control information from the IE "Traffic volume measurement system information" received in System Information Block type 12 or System Information Block type 11;

        - begin traffic volume measurement reporting according to the assigned information.

8.4.1.19.3 Test Purpose

The UE shall performs traffic volume measurements and the associated reporting when it enters CELL_FACH state from CELL_DCH state, and that such measurement contexts (and optionally, the reporting context) valid for CELL_FACH state have been previously stored.

The UE shall perform traffic volume measurement listed in the System Information Block type 11 or 12 messages, if no previously assigned measurements are present. The UE shall transmit MEASUREMENT REPORT messages if reporting conditions has been satisfied.

Reference

3GPP TS 25.331 clause 8.4.1.6.6

8.4.1.19.4 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

Initially the UE is in CELL_DCH state. MEASUREMENT CONTROL message is sent to the UE to establish traffic volume measurement context with optional IE "measurement validity" is not present. The UE shall perform measurement and reporting as assigned in MEASUREMENT CONTROL message. RADIO BEARER RECONFIGURATION procedure is used to take the UE from CELL_DCH state to CELL_FACH state. While entering CELL_FACH state from CELL_DCH state, the UE shall delete traffic volume measurement contexts if optional IE "measurement validity" is not present. So, in CELL_FACH state UE shall not perform traffic volume measurement and reporting. UE is taken to the CELL_DCH state from CELL_FACH state using RADIO BEARER RECONFIGURATION procedure. The UE shall not send MEASUREMENT REPORT message as measurement context is already deleted.

Similarly behavior of the UE when moved from CELL_DCH state to CELL_FACH state and assigned traffic volume measurement context is present with IE "measurement validity" is set to "All But CELL_DCH state" or "CELL_DCH state" or "All states" is tested.

When the UE is in CELL_DCH state, System Information is modified to assign traffic volume measurement and reporting to the UE. No previously assigned traffic volume measurement contexts are present in the UE. The UE is taken to CELL_FACH state from CELL_DCH state using RADIO BEARER RECONFIGURATION procedure. In CELL_FACH state the UE shall perform traffic volume measurement and reporting as assigned in System Information. Traffic volume measurement and reporting is released by sending MEASUREMENT CONTROL message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MEASUREMENT CONTROL	Optional IE "measurement validity" is not included.
2	→		MEASUREMENT REPORT	
3		←	RADIO BEARER RECONFIGURATION	
4	→		RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall delete measurement context setup by MEASUREMENT CONTROL message (Step 1).
5				SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
6		←	RADIO BEARER RECONFIGURATION	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
8				SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.

9	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "All But CELL_DCH".
10			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
11	←	RADIO BEARER RECONFIGURATION	
12	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall start traffic volume measurement setup by MEASUREMENT CONTROL message (Step 9).
13	→	MEASUREMENT REPORT	
14	←	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 9).
15	←	RADIO BEARER RECONFIGURATION	
16	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
17	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "CELL_DCH".
18	→	MEASUREMENT REPORT	
19	←	RADIO BEARER RECONFIGURATION	
20	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall stop traffic volume measurement setup by MEASUREMENT CONTROL message (Step 17).
21			SS waits for 8 seconds to confirm that there is no
22	←	MEASUREMENT CONTROL	UE shall release measurement context setup by E. MEASUREMENT CONTROL message (Step 17)
23	←	RADIO BEARER RECONFIGURATION	
24	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.

25	←	MEASUREMENT CONTROL	IE "measurement validity" is set to "All states".
26	→	MEASUREMENT REPORT	
27	←	RADIO BEARER RECONFIGURATION	
28	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall continue traffic volume measurement setup by MEASUREMENT CONTROL message (Step 25).
29	→	MEASUREMENT REPORT	
30	←	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 25)
31	←	RADIO BEARER RECONFIGURATION	
32	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
33	←	SIB12 modified	Traffic volume measurements and reporting is assigned to UEs
34	←	RADIO BEARER RECONFIGURATION	
35	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall start traffic volume measurement as assigned in System Information (Step 33).
36	→	MEASUREMENT REPORT	
37	←	MEASUREMENT CONTROL	UE shall release measurement context assigned in System Information (Step 33).

Specific Message Content

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	RLC Buffer Payload
- Traffic volume reporting quantity	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Measurement validity	Not Present
- Report criteria	Periodical Reporting Criteria
- Reporting amount	8
- Reporting interval	8 Sec
Measurement reporting mode	
- Transfer Mode	Acknowledged mode
- Periodical or event trigger	Periodic
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 2)

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	0
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer variance	Check to see if this IE is absent
- RB identity	1
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	2
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	3
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	4
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
- RB identity	20
- RLC buffer payload	Check to see if this IE is present
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is absent
Measured results on RACH	Check to see if this IE is absent
Additional measured results	Check to see if this IE is absent
Event results	Check to see if this IE is absent

RADIO BEARER RECONFIGURATION (Step 3, 11, 19, 27, and 34)

Use the same message type found in Annex A with condition set to A5.

RADIO BEARER RECONFIGURATION (Step 6, 15, 23, and 31)

Use the same message type found in Annex A with condition set to A4.

MEASUREMENT CONTROL (Step 9)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Measurement validity	All But CELL_DCH

MEASUREMENT REPORT (Step 13)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	2

MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Release
Measurement reporting mode	Not Present
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT CONTROL (Step 17)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Measurement validity	CELL_DCH

MEASUREMENT REPORT (Step 18)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	3

MEASUREMENT CONTROL (Step 22)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3

MEASUREMENT CONTROL (Step 25)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- UL transport channel identity	RACH
- UL transport channel identity	DCH :1
- UL transport channel identity	DCH : 5
- Measurement validity	All States

MEASUREMENT REPORT (Step 26, and 29)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	4

MEASUREMENT CONTROL (Step 30)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4

System Information Block type 12 (Step 33)

Information Element	Value/Remarks
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_quality	CPICH RSCP
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement ID	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	RLC Buffer Payload
- Traffic volume reporting quantity	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Traffic volume measurement reporting criteria	Not Present
- Measurement validity	Not Present
- Measurement reporting mode	
- Measurement report transfer mode	Acknowledged Mode
- Periodical or event trigger	Periodical
- Report criteria system Information	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	8 seconds
- UE internal measurement system information	Not Present

MEASUREMENT REPORT (Step 36)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	5

MEASUREMENT CONTROL (Step 37)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	5

8.4.1.19.5 Test Requirement

The UE shall send MEASUREMENT REPORT message in steps 13, 29 and 36. The UE shall not send MEASUREMENT REPORT message in steps 5, 8, and 21.

8.4.1.20 Measurement Control and Report: Traffic volume measurement in CELL_PCH state

8.4.1.20.1 Definition

8.4.1.20.2 Conformance requirement

In CELL_PCH state, when the reporting criteria is fulfilled for any traffic volume measurement which is being performed in the UE, the UE shall first perform the cell update procedure with the cause "uplink data transmission", in order to transit to CELL_FACH state and then transmit a MEASUREMENT REPORT message on the uplink DCCH

8.4.1.20.3 Test Purpose

To confirm that in CELL_PCH state, UE performs assigned traffic volume measurement. When reporting criteria for ongoing traffic volume measurement is fulfilled, the UE shall first perform cell update procedure and then transmit MEASUREMENT REPORT message.

Reference

3GPP TS 25.331 clause 8.4.2.2

8.4.1.20.4 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

Initially the UE is in CELL_DCH state. System Information block type 12 message is modified to assign traffic volume measurement and repotting. RADIO BEARER RECONFIGURATION procedure is used to take UE from CELL_DCH state to CELL_PCH state. While entering in CELL_PCH state from CELL_DCH state UE should start traffic volume measurement as assigned in System Information. When reporting criteria for traffic volume measurement is satisfied the UE shall change state to CELL_FACH and perform CELL UPDATE procedure. After successful completion of CELL UPDATE procedure, UE shall transmit MEASUREMENT REPORT message.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	SIB12 modified	Traffic volume measurements and reporting is assigned to UEs
2		←	RADIO BEARER RECONFIGURATION	IE "RRC State Indicator" is set to "CELL_PCH"
3	→		RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_PCH state from CELL_DCH state UE shall start traffic volume measurement as assigned in System Information (Step 1).
4	→		CELL UPDATE	The UE shall move to CELL FACH state with the message set to "uplink data transmission" in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	
6	→		MEASUREMENT REPORT	

Specific Message Content

System Information Block type 12 (Step 1)

Information Element	Value/Remarks
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_quality	CPICH RSCP
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement ID	1
- Traffic volume measurement object list	~~Not Present~~
- UL transport channel identity	RACH
- UL transport channel identity	DCH : 5
- Traffic volume measurement quantity	Variance of RLC Buffer Payload
- Time Interval to take an average	200 msec
- Traffic volume reporting quantity	
- RB buffer payload	False
- RB buffer payload average	False
- RB buffer payload variance	True
- Traffic volume measurement reporting criteria	Not Present
- Measurement validity	All States
- Measurement reporting mode	
- Measurement report transfer mode	Acknowledged Mode
- Periodical or event trigger	Periodical
- Report criteria system Information	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	8 seconds
- UE internal measurement system information	Not Present

RADIO BEARER RECONFIGURATION (Step 2)

Use the same message type found in Annex A with condition set to A5 except following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

CELL UPDATE (Step 4)

Use the same message type found in Annex A with condition set to A5 except following exceptions:

Information Element	Value/remark
Cell Update Cause	Check to see if set to "Uplink data transmission"

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	0
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer variance	Check to see if this IE is present
- RB identity	1
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	2
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	3
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	4
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	20
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
Measured results on RACH	Check to see if this IE is absent
Additional measured results	Check to see if this IE is absent
Event results	Check to see if this IE is absent

8.4.1.20.5   Test Requirement

The UE shall send CELL UPDATE message with cause "Uplink data transfer" in step 4 and MEASUREMENT REPORT message in 6.

End of modification

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.123-1** | **CR** | **137** | ⌘**rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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:	⌘	Correction to RRC test cases
Source:	⌘	Ericsson
Work item code:	⌘ TEI	**Date:** ⌘ 2002-02-11

Category: ⌘ **F**	**Release:** ⌘ REL-4

Use one of the following categories:
F *(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: ⌘	Correction to RRC test cases

Summary of change: ⌘	1. 8.2.1.8.4: Added value to New C-RNTI in RADIO BEARER SETUP message as otherwise the specified sequence would be wrong. When the UE enters CELL_FACH and does not have a C-RNTI it shall perform a CELL_UPDATE (TS 25.331 8.2.2.3). However, by supplying a C-RNTI in the configuration message and a scrambling code for the cell, the CELL_UPDATE is not performed by the UE. 2. 8.2.1.8.5: Editorial correction (linefeed added) 3. 8.2.1.9: Correction and clarification of conformance requirement and test procedure.

Consequences if not approved: ⌘	A good UE will fail tests

Clauses affected: ⌘	8.2.1.8.4 8.2.1.8.5 8.2.1.9

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

Other comments: ⌘	Affects R99 and REL-4

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.

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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.

<Start of modified section>

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 responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

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.

8.2.1.8.4 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 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 the UE receives this message, it transits from CELL_DCH to CELL_FACH state. 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	The UE selects PRACH and S-CCPCH indicated in SIB5 or SIB6 after entering CELL FACH state.

Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A. with the following exception:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

8.2.1.8.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message.

<End of modified section>

<Start of modified section>

8.2.1.9 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.1.9.1 Definition

8.2.1.9.2 Conformance requirement

~~The UE shall initiate the cell update procedure during a radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer establishment procedure and correctly establish the radio bearer.~~

1. If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

   ……

   - if the contents of the variable C_RNTI is empty:

     - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

2. If the CELL UPDATE CONFIRM message

   - does not include "RB information elements"; and

   - does not include "Transport channel information elements"; and

   - does not include "Physical channel information elements"; and

   - includes "CN information elements"; or

   - includes the IE "Ciphering mode info"; or

   - includes the IE "Integrity protection mode info"; or

   - includes the IE "New C-RNTI"; or

   - includes the IE "New U-RNTI":

   the UE shall:

   - transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

3. In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

   - transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC;

Reference

3GPP TS 25.331 clause 8.2.2.3~~8.2.1.~~, 8.3.1, 8.2.2.4

8.2.1.9.3 Test purpose

1. To verify that the UE when receiving a RADIO BEARER SETUP message not including a value for C-RNTI initiate a cell update procedure and indicating the cause "Cell reselection"

2. To verify that the UE when the CELL UPDATE CONFIRM message does not include "RB information elements", "Transport channel information elements" nor "Physical channel information elements" but include the IE "New C-RNTI" transmit a UTRAN MOBILITY INFORMATION CONFIRM message.

3.   To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message after it completes the~~a~~ cell update procedure.

8.2.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell- Cell 1 is active.

UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message which includes IE"Primary CPICH info" and no dedicated physical channel information, to request the UE to transit from CELL_DCH to CELL_FACH. ~~As the UE cannot detect the specified cell,~~ Due to absence of the C-RNTI in the RADIO BEARER SETUP message the UE shall initiate the cell update procedure even if the UE selects the same cell as indicated by the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD). The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a UTRAN MOBILITY UPDATE CONFIRM message on the DCCH using AM RLC.The UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2			Void	
3	←		RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH
4	→		CELL UPDATE	The value "cell reselection" set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	C-RNTI included
6	→		UTRAN MOBILITY INFORMATION CONFIRM~~Void~~	
7	→		RADIO BEARER SETUP COMPLETE	

Specific Message Contents

RADIO BEARER SETUP (Step 3)

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~~ with the following exceptions:~~.

~~Information Element~~	~~Value/remark~~
~~Downlink information for each radio links~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~150~~

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:.

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 6)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as " UTRAN MOBILITY UPDATE CONFIRM message" as found in Annex A.

RADIO BEARER SETUP COMPLETE (Step 7)

The contents of RADIO BEARER SETUP COMPLETE message is identical as " RADIO BEARER SETUP COMPLETE message" as found in Annex A.

8.2.1.9.5 Test requirement

1. After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

2. After step 5 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC.

3. After step 6 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

<End of modified section>

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21st –22nd February 2002

T1-020043

3GPP TSG- T1 SIG Meeting #21
Sophia Antipolis, France, 18th-20th February 2002

T1S-020017r3

CR-Form-v6.1

CHANGE REQUEST

| ⌘ | **TS 34.123-1** | **CR** | **136** | ⌘**rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

Spec Title: User Equipment (UE) conformance specification;　　　　⌘

Part 1: Protocol conformance specification

*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:	⌘	Corrections to clause 8.1
Source:	⌘	MCI, Rohde and Schwarz, Ericsson
Work item code: ⌘	TEI	***Date:*** ⌘　19th February 2002
Category: ⌘	**F**	***Release:*** ⌘　REL-4

Use <u>one</u> of the following categories:
F *(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 <u>one</u> 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: ⌘	In the current test cases 8.1.1.4, 8.1.1.5 and 8.1.1.6, bad UE may also result in positive test results. It is therefore necessary to revise the test methodology.

In clause 8.1.3.5, reception of an invalid RRC CONNECTION RELEASE message will result in UE sending back RRC STATUS message to SS if the protocol error is "ASN.1 violation or encoding error". To ensure that the UE continue its onging procedure, the UE is made to perform measurement report on RACH.

In clause 8.1.7.1 and 8.1.7.2, the UE should be able to support unciphered connection after the Security mode control procedure.

The IE "Initial UE identity" in many of the UL/DL-CCCH messages are incorrectly defined, as UE shall use TMSI or P-TMSI after these values are assigned during the registration procedure.

Revision 1 is highlighted in green. |
| ***Summary of change:*** ⌘ | General

IE "Initial UE identity" in the UL-CCCH messages are set to used TMSI or P-TMSI if these values are stored in the UE. IE "Initial UE identity" in the DL-CCCH messages are set to used the value indicated in the previous UL-CCCH message. Clause 8.1.2.1, clause 8.1.2.4, clause 8.1.2.5, clause 8.1.2.6, clause 8.1.2.7 and clause 8.1.2.9 are affected.

Corrections in the alignment of the IEs in IE "CHOICE Used paging identity". |

Clause 8.1.1.4, clause 8.1.1.5 an clause 8.1.1.6

The test procedure is revised. The new test method uses SIB type 5 instead of SIB type 3 and 4. IE "Available Signature" in SIB type 5 is modified. Following that the UE should respond to a paging request using the correct PRACH parameter to transmit the CELL UPDATE message.

In step 3, specific message content for SIB 5 is provided.

The changes to the IEs in SIB type 5 have been clearly defined.

In clause 8.1.1.6, it is clarified that the cell update cause in step 5 is paging response.

Clause 8.1.2.2

In SIB type 5, IE "Power offset Pp-m" is set to '0', both IE "Reference TFC ID" in computed and signalled gain factor are set to '0' and IE "Gain factor ßc" is set to '11' for signalled gain factor.

Clause 8.1.2.4 (from Ericsson)

Correction of values for UARFCN downlink IE and UARFCN uplink IE in RRC CONNECTION REJECT message. According to 25.331 10.3.6.36 UARFCN downlink IE must have a value while UARFCN uplink IE may be omitted.

Clause 8.1.3.5

In the conformance requirement, it is clarified that not all invalid message received will result in the release of the RRC connection.

The test purpose is revised to test that the UE transmits RRC STATUS message instead of RRC CONNECTION RELEASE message when the invalid message is received. The UE is requested to report measurement result on RACH messages before the invalid RRC CONNECTION RELEASE message is transmitted by SS. The UE shall continue this procedure after it receives the invalid message.

In the test requirement, the statement to check that UE release the RRC connection has been removed. Furthermore, the UE is required to include measurement result on the RACH messages.

Clause 8.1.7.1 and clause 8.1.7.2

The value of IE "UEA0" in SECURITY MODE COMMAND message is set to "TRUE".

Revision 3

(from R&S)

The following test case specification is affected:
-   tc 8.1.2.7 (Request the UE Capabilities in CONNECTION SETUP)

The RRC CONNECTION SETUP COMPLETE message sent by the UE contains "UE system specific capability" IEs which are checked by the SS against PICS/PIXIT values (step 4). This requires that the "UE radio access capability update requirement" IE is activated by the SS in step 2.

(from Ericsson)

8.1.3.1: Clarifications to conformance requirement, test purpose, method of test and test requirement. Number of RRC CONNECTION RELEASE COMPLETE transmissions shall be N308+1 and not N308.

Consequences if not approved:	⌘	The test prose cannot test UE correctly.

Clauses affected:	⌘	

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

Other comments:	⌘	

How to create CRs using this form:

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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 shall attempt to establish an RRC connection.

Reference

3GPP TS 25.331 clause 8.1.2, 3GPP TS 25.211 clause 5.3.3.7 (FDD), 3GPP TS25.221 (TDD), 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 TYPE 1 message which includes IE "UE identity"(in IE "Paging Record") set to the IMSI of the UE.

8.1.1.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108 with a CN UE identity (set to IMSI), depending on the CN domain(s) supported by the UE.

Test Procedure

SS transmits SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING 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 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 and transmits an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

> NOTE: 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		←	SYSTEM INFORMATION BLOCK TYPE 13 or SYSTEM INFORMATION BLOCK TYPE 1	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents.
2		←	PAGING TYPE 1	The SS transmits the message, which includes an unmatched identity (incorrect IMSI), and the UE does not change its state.
3		←	PAGING 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.
6	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 (Step 1) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	
- 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	00 00(CS) or 1E 01(PS)
- CN domain specific DRX cycle length coefficient	7
UE Timers and constants in idle mode	
- T300	4000 milliseconds
- N300	3
- T312	10 seconds
- N312	200

SYSTEM INFORMATION TYPE 13 (Step 1) – for UEs supporting ANSI-41 core networks

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	6000 milliseconds
- N300	3
- T312	10 sec
- N312	200

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- 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 TEST USIM card.
BCCH modification info	Not Present

PAGING TYPE 1 (Step 3)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- 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 TEST USIM card
BCCH modification info	Not Present

RRC CONNECTION REQUEST (Step 4)

Information Element	Value/remark
Message type	
Initial UE identity	Same as the IMSI stored in the TEST 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 and transmit an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

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 shall 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 6-12) as specified in clause 7.4 of TS 34.108, with a valid U-RNTI already assigned by the SS.

Test Procedure

SS transmits SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING TYPE 1 message, which includes an unmatched U-RNTI. 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 shall not change state after receiving this message. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI. Then the UE enters the CELL_FACH state and performs the cell updating procedure.

NOTE: 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	←		SYSTEM INFORMATION BLOCK TYPE 13 or SYSTEM INFORMATION BLOCK TYPE 1	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
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an arbitrary 16-bit string which is different from the SRNC identity assigned.
- S-RNTI	Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

PAGING TYPE 1 (Step 3)

Same as the PAGING TYPE 1 message as in step 3 of clause 8.1.1.1.4.

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to the same SRNC identity as previously assigned.
- S-RNTI	Set to the same S-RNTI as previously assigned.
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

SYSTEM INFORMATION BLOCK TYPE 13

Use the same SYSTEM INFORMATION BLOCK TYPE 13 message as specified in clause 8.1.1.1.4.

SYSTEM INFORMATION BLOCK TYPE 1

Use the same SYSTEM INFORMATION BLOCK TYPE 1 message as specified in clause 8.1.1.1.4.

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 3.

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".

After step 6 the UE shall be in the CELL_FACH state.

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 is set to "UTRAN identity" in IE "Used paging identity" and the U-RNTI value assigned to UE in the IE "U-RNTI".

8.1.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: URA_PCH state (state 6-13) 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. The UE does not change its current state. The SS transmits a PAGING TYPE 1 message which includes a matched U-RNTI. Then the UE listens to it and enters the CELL_FACH state to transmit a CELL UPDATE message using uplink CCCH in respond to the paging.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	PAGING TYPE 1	The SS transmits the message that includes an unmatched identifier, but 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.
4		←	CELL UPDATE CONFIRM	Use the default message specified in Annex A.

Specific Message Contents

PAGING TYPE 1 (Step 1)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an unused SRNC identity which is different from the SRNC identity assigned.
- S-RNTI	Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to the previously assigned SRNC identity
- S-RNTI	Set to previously assigned S-RNTI
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

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".

After step 4 the UE shall be in the CELL_FACH state.

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 UE in the idle mode about the changes, which are currently taking place. 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. 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 or state 7) as specified in clause 7.4 of TS 34.108 with a CN UE identity, depending on the CN domain(s) supported by the UE.

Test Procedure

The SS transmits a PAGING 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 modification time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5 message~~s~~. In the new SIB TYPE ~~3 and 4~~5 message~~s~~, the IE " Available Signature ~~Cell Access Restriction~~" is different when compared to the original SIB TYPE ~~3 and 4~~5 message~~s~~. At the ~~next~~ paging occasion, SS transmits a new PAGING TYPE 1 message. This 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 ~~consider the cell as barred and not respond to the PAGING TYPE 1 message~~respond with RRC CONNECTION REQUEST message. Then SS shall transmit RRC CONNECTION REJECT message to UE.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1			Void	
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	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
	←		SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5	At the same time, SS starts to transmit the affected SIB TYPE ~~3 and TYPE 4~~5 messages continuously. The IE "Available Signature ~~Cell Access Restriction~~" is changed from "~~Not barred~~0000 0000 1111 1111(B)" to "1111 1111 0000 0000(B)~~Barred~~". 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 at the correct paging occasion.
5	→		RRC CONNECTION REQUEST	~~The UE shall not transmit an RRC CONNECTION REQUEST message.~~
6	←		RRC CONNECTION REJECT	

Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Not Present
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 ~~3 and 4~~5 (Step 3)

Use the same message type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
- PRACH system information	
- PRACH info	
- CHOICE mode	FDD
- Available Signature	'1111 1111 0000 0000'B
~~- Cell Access Restriction~~	
~~- Cell barred~~	~~Barred~~
~~- Intra-frequency cell re-selection indicator~~	~~not allowed~~
~~- T~~barred	~~10~~
~~- Cell Reserved for operator use~~	~~Not reserved~~
~~- Cell Reservation Extension~~	~~Not reserved~~
~~- Access Class Barred List~~	
~~- Access Class Barred0~~	~~Barred~~
~~- Access Class Barred1~~	~~Barred~~
~~- Access Class Barred2~~	~~Barred~~
~~- Access Class Barred3~~	~~Barred~~
~~- Access Class Barred4~~	~~Barred~~
~~- Access Class Barred5~~	~~Barred~~
~~- Access Class Barred6~~	~~Barred~~
~~- Access Class Barred7~~	~~Barred~~
~~- Access Class Barred8~~	~~Barred~~
~~- Access Class Barred9~~	~~Barred~~
~~- Access Class Barred10~~	~~Barred~~
~~- Access Class Barred11~~	~~Barred~~
~~- Access Class Barred12~~	~~Barred~~
~~- Access Class Barred13~~	~~Barred~~
~~- Access Class Barred14~~	~~Barred~~
~~- Access Class Barred15~~	~~Barred~~

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	CN identity
- Paging Cause	Terminating Call with one of the supported services
- 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 value stored in the TEST USIM card
BCCH modification info	Not Present

RRC CONNECTION REJECT

Use the same message type found in clause Annex A.

8.1.1.4.5 Test requirement

After step 4 the UE shall not transmit RRC CONNECTION REQUEST messages in response to the PAGING TYPE 1 messages sent 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 UE in the CELL_PCH state about this change. 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. 2.

8.1.1.5.3 Test purpose

To confirm that the UE, 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 6-12) as specified in clause 7.4 of TS 34.108 with valid a U-RNTI assigned to it.

Test Procedure

The SS transmits a PAGING 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 modification time, is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE 3 and 45 messages. In the new SIB TYPE 3 and 45 messages, the IE "Cell Access RestrictionAvailable Signature" is different when compared to the original SIB TYPE 3 and 45 messages. At the next paging occasion, SS transmits a new PAGING TYPE 1 message.

This message addresses the UE using its ~~IMSI~~ U-RNTI ~~and the "paging cause" IE set to a terminating call type that is supported by the UE~~. The UE shall ~~consider the cell as barred and not respond to the PAGING TYPE 1 message~~ respond with a CELL UPDATE message and set IE "cell update cause" to "paging response".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
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	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
	←		SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5	At the same time, SS starts to transmit the affected SIB TYPE ~~3 and 4~~5 continuously. The value of IE "Available Signature ~~Cell Access Restriction~~" is changed from "~~Not barred~~0000 0000 1111 1111(B)" to "1111 1111 0000 0000(B)~~Barred~~". 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 at the correct paging occasion.
5	→		CELL UPDATE	~~The UE shall not transmit an RRC CONNECTION REQUEST message.~~
6	←		CELL UPDATE CONFIRM	

Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
- CN originated page to connected mode UE	Not Present
BCCH modification info	2
- MIB Value Tag	4088
- BCCH Modification time	

MASTER INFORMATION BLOCK (Step 3) and

SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5 (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
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

CELL UPDATE (Step 5)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
U-RNTI	Checked to see if it is set to the same values as in step 4
- SRNC identity	
- S-RNTI	
Cell update cause	Paging response

CELL UPDATE CONFIRM (Step 6)

Use the same message type found in clause Annex A.

8.1.1.5.5 Test requirement

After step 4 the UE shall ~~not~~ transmit ~~any~~ a CELL UPDATE message with IE "cell update cause" set to "paging response"~~s~~.

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. 2.

8.1.1.6.3 Test purpose

To confirm that the UE 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 6-13) as specified in clause 7.4 of TS 34.108 with a valid U-RNTI assigned.

Test Procedure

The SS transmits a PAGING 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 modification time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE 3 and 45 messages. In the new SIB TYPE 3 and 45 messages, the IE "Available SignatureCell Access Restriction" is different when compared to the original SIB TYPE 3 and 45 messages. At the next paging occasion, SS transmits a new PAGING TYPE 1 message. This message addresses the UE using its U-RNTIIMSI and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall consider the cell as barred and not respond with a CELL UPDATE message and set IE "cell update cause" to "paging response"to the PAGING TYPE 1 message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
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	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
		←	SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5	At the same time, SS starts to transmit the affected SIB TYPE ~~3~~5 ~~and TYPE 4~~ message~~s~~ continuously. The value of IE "Available Signature~~Cell Access Restriction~~" is changed from "0000 0000 1111 1111(B)~~Not barred~~" to "1111 1111 0000 0000(B)~~Barred~~".
				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 at the correct occasion.
				~~The UE shall not transmit an RRC CONNECTION REQUEST message.~~
5	→		CELL UPDATE	
6		←	CELL UPDATE CONFIRM	

Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
- CN originated page to connected mode UE	Not Present
BCCH modification info	2
- MIB Value Tag	4088
- BCCH Modification time	

MASTER INFORMATION BLOCK (Step 3) and

SYSTEM INFORMATION BLOCK TYPE ~~3 and 4~~5 (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
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

CELL UPDATE (Step 5)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
U-RNTI	Checked to see if it is set to the same values as in step 4
- SRNC identity	
- S-RNTI	
Cell update cause	Paging response

CELL UPDATE CONFIRM (Step 6)

Use the same message type found in clause Annex A.

8.1.1.6.5 Test requirement

After step 4, the UE shall ~~not~~ transmit ~~any~~ a CELL UPDATE message~~s~~ with IE "cell update cause" set to "paging response".

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 UE in CELL_DCH state using the dedicated control channel (DCCH). The UE listens to it and responds to this message accordingly.

When UE receives an invalid PAGING TYPE 2 message, UE shall perform procedure specific error handling.

Reference

3GPP TS 25.331 clause 8.1.11.

8.1.1.7.3 Test purpose

To confirm that the UE responds to a PAGING TYPE 2 message which includes IE "Paging Record Type Identifier" for the UE.

To confirm that the UE responds with a RRC STATUS message after it received an invalid PAGING TYPE 2 message.

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, depending on the CN domain(s) supported by the UE, after executing a location registration or attach procedure followed by the release of the TMSI of P-TMSI allocated.

Test Procedure

The SS transmits an invalid PAGING TYPE 2 message. 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			Void	
2	←		PAGING TYPE 2	See message content.
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 3.

Specific Message Contents

PAGING TYPE 2 (Step 2)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 3)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Protocol error information	Checked to see if set to "ASN.1 violation or encoding error"

PAGING TYPE 2 (Step 4)

Use the same message type found in Annex A, with the following exception.

Information Element	Values/Remarks
Paging cause	Terminating Call supported by the UE
CN domain identity	Domain supported by the UE
Paging record type identifier	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 2 the UE shall respond to the paging message by transmitting RRC STATUS on the DCCH, stating the protocol error as "ASN.1 violation or encoding error".

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 UE 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 8.1.11.

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. Then the UE shall respond by transmitting an upper layer message to answer this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2	←		PAGING TYPE 2	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.

UPLINK DIRECT TRANSFER (Step 2)

Only the message type IE for this message is checked.

8.1.1.8.5 Test requirement

After step 1 the UE shall respond to the 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 radio bearers and multiplexing info) and U-RNTI, UE then configures the layer 2 and layer 1 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 signalling radio bearers 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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 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 before timer T300 expires but discards it due to a 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 transmits 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.
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)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity CHOICE UE id type IMSI	Set to the same type as in the RRC CONNECTION REQUEST message but with a different value IMSI Set to an arbitrary octet string of length 7 which different from the IMSI value stored in the TEST USIM 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.

   When there are more than one PRACHs available, the UE shall select one PRACH randomly and transmit an RRC CONNECTION REQUEST message by use of selected PRACH.

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

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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

Before the test starts, SYSTEM INFORMATION BLOCK TYPE 5 message is modified and this modification is notified to the UE. An internal counter K in SS is initialized to a value = 0. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by use of selected PRACH from the available PRACH No.1 and PRACH No.2, 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 6 to the UE. The UE shall send another RRC CONNECTION REQUEST message on the uplink CCCH. 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 message on uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	SS transmits the paging message which comprises IE "BCCH Modification Information", with the "Value Tag" different 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.
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 5	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 5 messages.
2				SS initializes counter K to 0. Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
3	→		RRC CONNECTION REQUEST	
4				SS checks to see if K is equal to N300. If so, goes to step 6. Else, continues to execute step 5.
5				SS increments K. The next step is step 3.
6		←	RRC CONNECTION SETUP	Use an invalid message in ASN.1.
7	→		RRC CONNECTION REQUEST	
8		←	RRC CONNECTION SETUP	This is a legal message. See the clause 9 in TS 34.108 on default message content for RRC.
9				The UE configures the layer 1 and layer 2.
10	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

PAGING TYPE 1 (Step 1a)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
BCCH modification info	
- MIB Value Tag	2
- BCCH Modification time	4088

SYSTEM INFORMATION TYPE 5 (Step 1) - (FDD)

- PRACH system information	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SF	64
- Preamble scrambling code number	0
- Puncturing Limit	100
- Available Sub Channel number	'1111 1111 1111'B
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	ALL
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete
- TFCS addition information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Power offset Pp-m	0 ~~5~~ dB
- CTFC information	1
- Reference TFC ID	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	11 ~~10~~
- Gain factor ßd	15
- Reference TFC ID	~~Not Present~~0
- Power offset Pp-m	~~-5~~0dB
- PRACH partitioning	
- Access Service Class	

- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Assigned Sub-channel Number	'1111'B
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
CHOICE mode	FDD
- Primary CPICH DL TX power	31
- Constant value	−10
- PRACH power offset	
- Power Ramp Step	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot

- AICH info	
- Channelisation code	3
- STTD indicator	FALSE
- AICH transmission timing	0
- PRACH info (PRACH No.2)	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SF	64
- Preamble scrambling code number	1
- Puncturing Limit	100
- Available Sub Channel number	'1111 1111 1111'B
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	ALL
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete
- TFCS addition information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Power offset Pp-m	~~-5~~0 dB
- CTFC information	1
- Reference TFC ID	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	~~10~~11
- Gain factor ßd	15
- Reference TFC ID	~~Not Present~~0
- Power offset Pp-m	~~-5~~0dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	

- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Assigned Sub-channel Number	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Assigned Sub-channel Number	'1111'B
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
CHOICE mode	FDD
- Primary CPICH DL TX power	31
- Constant value	−10
- PRACH power offset	
- Power Ramp Step	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Channelisation code	4
- STTD indicator	FALSE
- AICH transmission timing	0

SYSTEM INFORMATION TYPE 5 (Step 1) – 3.84 Mcps TDD

- PRACH system information	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Timeslot Number	14
- PRACH Channelisation Code	
- CHOICE SF	8
- Channelisation Code List	
- Channelisation Code	8/1
- Channelisation Code	8/2
- Channelisation Code	8/3
- Channelisation Code	8/4
- PRACH Midamble	Direct
-PNBSCH allocation	Not Present
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#2)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#5)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD

- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#7)
- CHOICE subchannel size	Size1
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- CHOICE mode	TDD
- PRACH info (PRACH No.2)	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Timeslot Number	14
- PRACH Channelisation Code	
- CHOICE SF	8
- Channelisation Code List	
- Channelisation Code	8/5 where i denotes an unassigned code
- Channelisation Code	8/6 where i denotes an unassigned code
- Channelisation Code	8/7 where i denotes an unassigned code
- Channelisation Code	8/8 where i denotes an unassigned code
- PRACH Midamble	Direct
-PNBSCH allocation	Not Present
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD

- Available SYNC_UL codes indices	'00001111'B (ASC#2)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#5)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#7)
- CHOICE subchannel size	Size1
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- CHOICE mode	TDD

SYSTEM INFORMATION TYPE 5 (Step 1) – 1.28 Mcps TDD

- PRACH system information	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- SYNC_UL info	
- SYNC_UL codes bitmap	'11110000'B
- PRX$_{UpPCHdes}$	10
- Power Ramping Step	3
- Max SYNC_UL Transmissions	8
- Mmax	32
- PRACH Definition	
- Timeslot Number	
- CHOICE TDD option	1.28 Mcps TDD
- Timeslot number	1
- PRACH Channelisation Code	
- Channelisation Code List	
- Channelisation Code	8/1
- Midamble shift and burst type	
- CHOICE TDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	8
- Midamble Shift	Not Present
- FPACH info	
- Timeslot number	6
- Channelisation code	16/16
- Midamble Shift and burst type	
- CHOICE TDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	16
- Midamble Shift	Not Present
- WT	4
- PNBSCH allocation	Not Present
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	½
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD

- Available SYNC_UL codes indices	'11110000'B (ASC#2)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#5)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#7)
- CHOICE subchannel size	Size1
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- CHOICE mode	TDD
- PRACH info (PRACH No.2)	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- SYNC_UL info	
- SYNC_UL codes bitmap	'11110000'B
- $PRX_{UpPCHdes}$	10
- Power Ramping Step	1
- Max SYNC_UL Transmissions	8
- Mmax	32
- PRACH Definition	
- Timeslot Number	
- CHOICE TDD option	1.28 Mcps TDD
- Timeslot number	1
- PRACH Channelisation Code	
- Channelisation Code List	
- Channelisation Code	8/2
- Midamble shift and burst type	
- CHOICE TDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	8
- Midamble Shift	Not Present
- FPACH info	
- Timeslot number	An available down-link timeslot

- Channelisation code	16/15
- Midamble Shift and burst type	
- CHOICE TDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	16
- Midamble Shift	Not Present
- WT	4
- PNBSCH allocation	Not Present
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	½
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#2)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#5)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#7)
- CHOICE subchannel size	Size1
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)

- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- CHOICE mode	TDD

RRC CONNECTION SETUP (Step 6)

Information Element	Value/remark
All IEs	Not Present

8.1.2.2.5 Test requirement

After step 2 the UE shall select either PRACH No.1 or PRACH No.2 and transmit an RRC CONNECTION REQUEST message.

After step 6 the UE shall re-send another RRC CONNECTION REQUEST message.

After step 9 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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 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 0 and 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 idle state. 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 equal 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.

3. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and either IE "frequency info" or IE "system info" is available in the message, the UE shall attempt to perform cell reselection using these information. Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.

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" lapses, if the UE receives an RRC CONNECTION REJECT message which includes the IE "wait time" not set to 0.

To confirm that the UE performs 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. The transmission power of cell 2 is 15 dB smaller than cell 1.

Table 8.1.2.4

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec	dBm	-60	-75

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 REQUEST 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 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 remain unchanged.
5		←	RRC CONNECTION REJECT	This message shall include 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)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI ~~Checked to see if it is set to IMSI stored in the test TEST USIM card.~~
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 2) - FDD

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE mode	FDD
UARFCN uplink (Nu)	Not present ~~Set to the UARFCN for uplink carrier of cell 2~~
UARFCN downlink (Nd)	~~Not present~~ Set to the UARFCN for uplink carrier of cell 2

RRC CONNECTION REJECT (Step 2) – TDD

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE Mode	TDD
UARFCN (Nt)	Set to a different UARFCN from the carrier of cell 1

RRC CONNECTION REQUEST (Step 4 and step 6)

Same requirement as in step 1.

RRC CONNECTION REJECT (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds

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 step 7 the UE shall 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.

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" elapses 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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

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 and the UE enters idle state.

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 idle state. 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)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI~~Checked to see if it is set to IMSI stored in the test TEST USIM card.~~
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 3)

Use the same message type found in Annex A, with the following exception.

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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 REQUEST message upon T300 timer expiry. SS answers the second RRC CONNECTION REQUEST message by transmitting an invalid RRC CONNECTION REJECT message. The UE shall continue to send the third RRC CONNECTION REQUEST message upon expiry of T300 timer. Next, the SS sends a legal RRC CONNECTION REJECT message which includes IE "wait time" which is set to '0'. To confirm that the UE goes back to idle mode immediately after receiving the reject message, SS shall monitor the uplink CCCH for the next 60 seconds 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 send this message after T300 expires.
4	←		RRC CONNECTION REJECT	
5		→	RRC CONNECTION REQUEST	UE shall send this message after T300 expires.
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, 3 and 5)

Information Element	Value/remark
Message Type	
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI ~~Checked to see if it is set to IMSI stored in the test TEST USIM card.~~
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)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Initial UE Identity ~~IMSI~~	Set to the same type as in RRC CONNECTION REQUEST message (step 1) but with a different value. ~~Set to an arbitrary octet string of length 7 bytes, which is different from the IMSI stored in TEST USIM.~~

RRC CONNECTION REJECT (Step 4)

Information Element	Value/remark
All IEs	Not Present

RRC CONNECTION REJECT (Step 6)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Initial UE Identity ~~IMSI~~	Same as the type and value defined in RRC CONNECTION REQUEST message (step 5) ~~Set to the identical octet string as the IMSI stored in the TEST USIM card.~~
Reject Cause	Congestion
Wait time	0 second

8.1.2.6.5 Test requirement

After step 2 the UE shall transmit an RRC CONNECTION REQUEST message on uplink CCCH upon expiry of T300 timer.

After step 4 the UE shall re-transmit an RRC CONNECTION REQUEST message on the uplink CCCH upon expiry of T300 timer.

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 is available from the message, the UE shall utilize the PRACH and S-CCPCH information transmitted on the BCCH and then enter CELL_FACH state. Subsequently, the UE shall establish the required signalling radio bearers 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 radio bearers 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 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI~~Checked to see if it is set to IMSI stored in the test TEST USIM card.~~
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming 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 Annex A with the following Exception.

Information Element	Value/remark
Capability update requirement	
UE radio access capability update requirement	TRUE

.

RRC CONNECTION SETUP COMPLETE

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
UE Radio Access Capability	Checked to see if compatible with the stated capability in PIXIT/PICS statements.
UE radio access capability extension	Checked to see if compatible with the stated capability in PIXIT/PICS statements.
UE system specific 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 Void

8.1.2.9 RRC Connection Establishment: Success after Physical channel failure and Invalid configuration

8.1.2.9.1 Definition

8.1.2.9.2 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 due to a physical channel failure after the UE receives an RRC CONNECTION SETUP message, the UE retries to establish the RRC connection until V300 is greater than N300

3. In the case of a RRC CONNECTION SETUP message is received by UE causes invalid configuration, the UE retries to establish the RRC connection until V300 is greater than N300.

Reference

3GPP TS 25.331 clause 8.1.3.

8.1.2.9.3 Test purpose

To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 when a physical channel failure occurs because SS does not configure the physical channel that is specified in the transmitted RRC CONNECTION SETUP message. To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 when the transmitted RRC CONNECTION SETUP message causes invalid configuration in the UE.

8.1.2.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

Test Procedure

Before the test starts, an internal counter K in SS is initialised to a value = 0. 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 increments K every time such a message is received. Then, SS shall send a RRC CONNECTION SETUP message that contains an invalid configuration. UE shall then send RRC CONNECTION REQUEST message to SS again. Next SS transmits an RRC CONNECTION SETUP message to make the UE configure the physical channel in order to communicate on the DCCH but SS does not configure the physical channel. Then the UE detects the physical channel failure and transmits an RRC CONNECTION REQUEST message. This cycle is repeated until K reaches N300. When K is equal to N300, the SS transmits the RRC CONNECTION SETUP message and configures the physical channel. The UE shall detect "in-sync" from physical layer and then acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE message on uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				SS initialises counter K to 0. Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
2	→		RRC CONNECTION REQUEST	
2a				SS increments K by 1 for every RRC CONNECTION REQUEST message received in step 2
3				SS checks to see if K is equal to N300+1. If so, goes to step 6. Else, continues to execute step 4.
4	←		RRC CONNECTION SETUP	See message content below. SS does not configure the physical channel.
5				The next step is step 2.
6	←		RRC CONNECTION SETUP	See the clause 9 in TS 34.108 on default message content for RRC. SS configures the physical channel.
7				The UE configures the layer 1 and layer 2.
8	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

RRC CONNECTION SETUP (Step 4 and K=1)

Use the same message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not present

RRC CONNECTION SETUP (Step 4 and K>1)

Use the same message sub-type found in clause 9 of TS 34.108.

RRC CONNECTION REQUEST (Step 2 and K=1)

Use the same message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI~~Checked to see if it is set to IMSI stored in the test TEST USIM card.~~
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call
Protocol error indicator	TRUE

8.1.2.9.5 Test requirement

After step 4 the UE shall re-send RRC CONNECTION REQUEST message.

After step 8 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection.

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

1. The UE shall receive and act on an RRC CONNECTION RELEASE message in states CELL_DCH and CELL_FACH. Furthermore this procedure can interrupt any ongoing procedures with the UE in the above listed states.

   When the UE receives the first RRC CONNECTION RELEASE message, it shall:

   …

   - in state CELL_DCH:

      - initialise the counter V308 to zero;

      …

      - submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using UM RLC on the DCCH to the UTRAN;

         …

      - start timer T308 when the RRC CONNECTION RELEASE COMPLETE message is sent on the radio interface.

2. When in state CELL_DCH and the timer T308 expires, the UE shall:

   - increment V308 by one;

   - if V308 is equal to or smaller than N308:

      - retransmit the RRC CONNECTION RELEASE COMPLETE message, without incrementing "Uplink RRC Message sequence number" for signalling radio bearer RB1 in the variable INTEGRITY_PROTECTION_INFO;

   - if V308 is greater than N308:

      - release all its radio resources;

      …

      - enter idle mode;

      - perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode;

      - and the procedure ends.

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 radio bearer. 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 8.1.4.3, 8.1.4.6

8.1.3.1.3 Test purpose

To verify:

1. that the UE when receiving an RRC CONNECTION RELEASE message transmits N308+1 RRC CONNECTION RELEASE COMPLETE messages before release of radio resources and entering into idle mode

2. that the time between UE transmissions of the RRC CONNECTION RELEASE COMPLETE message is equal to the value of the T308 timer.

To confirm that the UE releases the L2 signalling radio bearer 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+1 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, depending on the CN domain(s) supported by the UE

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 + 1 such messages has been received at each expiry of T308 timer. P is equal to the value of IE "N308" 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 "N308" is arbitrarily chosen from 1 to 8 and denoted by P.
3	→		RRC CONNECTION RELEASE COMPLETE	SS waits for the arrival of N308 + 1 such message at the expiry of each T308 timer, using unacknowledged mode.
4				SS verifies that tThe UE releases its L2 signalling radio bearer and dedicated resources and enters idle mode. Then the UE goes to idle mode.

Specific Message Content

RRC CONNECTION RELEASE (Step 2)

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
N308	Arbitrarily chosen between 1 and 8

8.1.3.1.5 Test requirement

After step 2 the UE shall ~~start to~~ transmit P + 1 ~~times~~ RRC CONNECTION RELEASE COMPLETE messages. The time between the transmissions shall be equal to the T308 timer value. ~~and each time after the expiry of T308 timer.~~

After step 3 the UE shall initiate the release of the L2 signalling radio bearer and dedicated resources~~, then it shall go to and enter~~ 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 CELL_FACH state, the RRC layer entity in the network may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. Upon the reception of this message, the UE 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 confirmation from 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 radio bearer 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.

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, depending on the CN domain(s) supported by the UE.

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. 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 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	SS sends this message using unacknowledged mode RLC operations on the uplink DCCH.
3	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode.
4				The UE releases L2 signalling radio bearer and radio resources. Then the UE goes to idle mode.

Specific Message Contents

None.

8.1.3.2.5   Test requirement

After step 2 the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode then it shall receive a response for this message from the SS-RLC.

After step 3 the UE shall release its L2 signalling radio bearers 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 (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, SS transmits an 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 60 seconds. 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

None.

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.

8.1.3.4 RRC Connection Release in CELL_FACH state: Failure

8.1.3.4.1 Definition

8.1.3.4.2 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

8.1.3.4.3 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).

8.1.3.4.4 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, depending on the CN domain(s) supported by the UE

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.
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

8.1.3.4.5 Test requirement

After step 3 the UE shall release its L2 signalling radio bearers 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~~STATUS 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: "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

Test Procedure

The UE is initially at idle mode. The System Information Block type 11 messages are modified with respect to the default In the System Information type 11 messages, reporting of CPICH RSCP is required for intra-frequency reporting when transmitting RACH messages.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. SS and UE shall execute procedure P6. Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14.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 physical channels for uplink and downlink usage. UE shall then enter CELL_FACH state. SS starts timer T305 and waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of current cell CPICH RSCP values in IE "Measured results on RACH". SS then replies with CELL UPDATE CONFIRM message on the downlink DCCH.The UE is brought to an initial state of CELL_FACH. SS transmits an invalid RRC CONNECTION RELEASE message on the DCCH to request to disconnect the RRC connection. The UE shall transmit an RRC CONNECTION RELEASE COMPLETESTATUS message on the uplink DCCH, which includes the IE "Error indicationProtocol Error Information". This IE shall contain "Failure cause" IE which is set to "Protocol error" and "Protocol error information" IE which is set to " ASN.1 violation or encoding error ". The UE shall release the RRC connection and go back to idle mode after transmitting the RRC CONNECTION RELEASE COMPLETE message. Then SS waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of current cell CPICH RSCP values in IE "Measured results on RACH". SS then replies with CELL UPDATE CONFIRM message on the downlink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		Master Information Block System Information Block type 1, System Information Block type 11	The UE is idle mode and camped onto cell 1. System Information Block type 1 and 11 to be transmitted are different from the default settings (see specific message contents)
2	↔		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	SS prompts the test operator to make an outgoing call.
3	↔		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	↔		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				SS waits for 5 minutes (for the expiry of T305 timer).

6	→	CELL UPDATE	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
7	←	CELL UPDATE CONFIRM	
~~1~~			~~The UE is brought to the CELL_FACH state.~~
~~2~~8	←	RRC CONNECTION RELEASE	See specific message contents for this message
~~3~~9	→	RRC ~~CONNECTION RELEASE COMPLETE~~STATUS	The IE "Protocol error cause" found in IE "Protocol error information" shall be set to " ASN.1 violation or encoding error ". This message is sent using acknowledge mode.
4			~~The UE shall release the signalling radio bearers and radio resources, and then return to idle mode.~~
10			SS waits for 5 minutes (for the expiry of T305 timer).
11	→	CELL UPDATE	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
12	←	CELL UPDATE CONFIRM	

Specific Message Contents

Master Information Block (Step 1)

Information Element	Value/Remarks
MIB Value tag	2

System Information Block type 1 (Step 1)

Information Element	Value/Remarks
UE Timers and constants in connected mode - T305	5 minutes.

System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	FALSE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	5
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency info list	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
- Qoffset$_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	-20dB
- Qrxlevmin	-115dBm
- Cells for measurement	Not Present
- 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	CPICH RSCP
- 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	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodic Reporting
- CHOICE report criteria	Intra-frequency measurementreporting criteria

Information Element	Value/Remark
- Parameters required for each event	
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
- Reporting Range Constant	20.0 dB
- Cells forbidden to affect reporting range	Not Present
- CHOICE mode	FDD
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 2
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	-85 dBm
- Reporting deactivation threshold	0
- Replacement activation threshold	Not Present
- Time to trigger	0msec
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- Reporting Cell Status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

CELL UPDATE (Step 6 and 11)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI value assigned in the execution of procedure P6.
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	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is absent.
Protocol error information	Check to see if set to 'FALSE'

RRC CONNECTION RELEASE (Step ~~2~~8)

Information Element	Value/remark
All IEs	Not Present

RRC ~~CONNECTION RELEASE COMPLETE~~STATUS (Step 9)

Check to see if the same message type found in clause ~~9 of TS 34.108~~A is received, with the following exceptions:

Information Element	Value/remark
~~Error Indication~~	
~~- Failure cause~~	~~Protocol error~~
Protocol error information	
Protocol error cause	ASN.1 violation or encoding error

8.1.3.5.5 Test requirement

After step 5 and 10, the UE shall initiate cell update procedure by transmitting CELL UPDATE message on CCCH. In this message, IE "cell update cause" shall be set to "periodic cell updating". It shall include IE "measured results on RACH", containing the measurement value for current cell CPICH RSCP.

After step 2 8 the UE shall transmit an RRC CONNECTION RELEASE COMPLETESTATUS message which includes the appropriate cause values in IE "Error IndicationProtocol error information".

After step 3 the UE shall release its L2 signalling radio bearers and radio resources, then it shall go back to idle mode.

8.1.4 Void

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.

2. 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.

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 clauses 8.1.6 and 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 indicates an invalid message reception when invalid 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 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an invalid UE CAPABILITY ENQUIRY message . This message lacks all IEs except IE "Message Type". After receiving such a message, the UE shall report the error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a correct UE CAPABILITY ENQUIRY message, the UE receives this message and transmits a UE

CAPABILITY INFORMATION message on the uplink DCCH which includes the "UE radio access capability" IE. The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the test. Then SS initiates another UE capability enquiry procedure. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmits an invalid UE CAPABILITY INFORMATION CONFIRM message. This message lacks all IEs except IE "Message Type". 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 after the expiry of T304. SS completes this test by transmitting 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" shall be set to " ASN.1 violation or encoding error "
4		←	UE CAPABILITY ENQUIRY	Use default message.
5	→		UE CAPABILITY INFORMATION	Use default message.
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	See specific message contents for this message
10	→		RRC STATUS	UE shall detect an error and then transmit this message.
11	→		UE CAPABILITY INFORMATION	UE shall re-transmit this message after T304 expires.
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)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 3)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 10)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding 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 " ASN.1 violation or encoding error ".

After step 4 and 7 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 error".

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8 after the expiry of T304.

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 after T304 expires until V304 is greater than N304.

Reference

3GPP TS 25.331 clause 8.1.6 and 8.1.7.

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 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "UE radio access capability" IE. The SS 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_DCH state. SS sets internal counter K =0
2	←		UE CAPABILITY ENQUIRY	Including the IE "Capability update requirement".
3	→		UE CAPABILITY INFORMATION	Including the "UE radio access capability".
4				If K is equal 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. After (N304) 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. If UE re-transmits UE CAPABILITY INFORMATION in excess of N304 times, the UE initiates the cell update procedure.

Reference

3GPP TS 25.331 clauses 8.1.6 and 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 cell update procedure.

8.1.5.3.4   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, depending on the CN domain(s) supported by the UE.

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 "UE radio access capability" 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 cell update procedure. SS allows UE to return to "connected state" by issuing CELL UPDATE CONFIRM message on the downlink DCCH. Then UE shall reconfigured its physical channel according to the CELL UPDATE CONFIRM message and respond with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to SS.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts from CELL_DCH state. SS sets counter K to 0
2	←		UE CAPABILITY ENQUIRY	Use default message
3	→		UE CAPABILITY INFORMATION	Use default message
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	→		CELL UPDATE	The UE assumes that radio link failure has occurred and transmits this message which includes IE "Cell update cause" set to "radio link failure".
6	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
7				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

CELL UPDATE CONFIRM (Step 6) - FDD

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	2
- 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
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 6) – 3.84 Mcps TDD

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	30dBm
CHOICE Mode	TDD
Downlink information for each radio links	
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- CHOICE SyncCase	Not Present
- Cell Parameters ID	Not Present
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

CELL UPDATE CONFIRM (Step 6) – 1.28 Mcps TDD

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	30dBm
CHOICE Mode	TDD
Downlink information for each radio links	
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- TSTD indicator	FALSE
- Cell Parameters ID	Not Present
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

8.1.5.3.5 Test requirement

After step 2, the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The UE shall re-transmit this message for N304 times.

After step 4, the UE shall initiate the cell update procedure.

After step 6, UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after it has configured L1 according to the CELL UPDATE CONFIRM message in step 6.

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 clauses 8.1.6 and 8.1.7.

8.1.5.4.3 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 indicates an invalid message reception when invalid 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 6-11) 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 invalid UE CAPABILITY ENQUIRY message. 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". After UE receives this message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, which includes the IE "UE radio access capability". 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. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmits an invalid UE CAPABILITY INFORMATION CONFIRM message. This message lacks all IEs except IE "Message Type". 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 upon the expiry of T304. 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" shall be set to "ASN.1 violation or encoding error"
4		←	UE CAPABILITY ENQUIRY	Use default message.
5	→		UE CAPABILITY INFORMATION	Use default message.
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	See specific message contents for this message
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 T304 expires.
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)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 3)

Check to is the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 10)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding 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 " ASN.1 violation or encoding error ".

After step 4 and 7 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 error".

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8 upon the expiry of T304.

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 clauses 8.1.6 and 8.1.7.

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 fails 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 6-11) 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 "UE radio access capability". 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 =0
2	←		UE CAPABILITY ENQUIRY	Including the IE "Capability update requirement".
3	→		UE CAPABILITY INFORMATION	Including the IE "UE radio access capability".
4				If K equals 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. After (N304) 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 and no signalling connection exists)

8.1.6.1.1   Definition

8.1.6.1.2   Conformance requirement

The UE shall transmit an RRC STATUS message stating the value "ASN.1 violation or encoding error" in IE "Protocol error cause" when the UE receives a DOWNLINK DIRECT TRANFER message, which does not include any IEs except IE "Message Type". The UE shall transmit an RRC STATUS message including the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state" when the UE receives a DOWNLINK DIRECT TRANSFER message, with invalid IE"CN domain identity".

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 which does not include any IEs except IE "Message Type". To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which includes an invalid IE "CN domain identity".

8.1.6.1.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid DOWNLINK DIRECT TRANSFER message to the UE. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "ASN.1 violation or encoding error" shall also be indicated in IE "Protocol error cause". The SS transmits a DOWNLINK DIRECT TRANSFER message that contains an invalid IE "CN domain identity" to the UE. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "Message not compatible with receiver state" shall also be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	Only message type is provided.
2	→		RRC STATUS	
3		←	DOWNLINK DIRECT TRANSFER	
4	→		RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER (Step 1)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 2)

Check to see if same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol error information - Protocol error cause	ASN.1 violation or encoding error

DOWNLINK DIRECT TRANSFER (Step 3)

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
CN domain identity	CS domain or PS domain as unselected domain
NAS message	Arbitrary message.

RRC STATUS (Step 4)

Check to see if same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark

Message Type
Identification of received messag type
  - Received message type
  - RRC transaction identifier
 	
Protocol error information
  – Protocol error cause
	
	DOWNLINK DIRECT TRANSFER
	Same value in the DOWNLINK DIRECT TRANSFER message in step 3.
	
	Message not compatible with receiver state

8.1.6.1.5 Test requirement

After step 1 the UE shall transmit an RRC STATUS message on the DCCH using AM RLC setting "ASN.1 violation or encoding error" in IE "Protocol error cause".

After step 3 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting "Message not compatible with receiver state" in IE "Protocol error cause".

8.1.6.2 Direct Transfer in CELL FACH state (invalid message reception and no signalling connection exists)

8.1.6.2.1 Definition

8.1.6.2.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the value "ASN.1 violation or encoding error" in IE "Protocol error cause" when the UE receives a DOWNLINK DIRECT TRANSFER message, which does not include any IEs except IE "Message Type". The UE shall transmit an RRC STATUS message including the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state" when the UE receives a DOWNLINK DIRECT TRANSFER message, with invalid IE "CN domain identity".

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 which does not include any IEs except IE "Message Type". To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which includes an invalid IE "CN domain identity".

8.1.6.2.4   Method of test

Initial Condition

System Simulator: 1 cell.

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 DOWNLINK DIRECT TRANSFER message to the UEand does not include all IEs except IE "Message Type". The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "ASN.1 violation or encoding error" shall also be indicated in IE "Protocol error cause". The SS transmits a DOWNLINK DIRECT TRANSFER message that contains an invalid IE "CN domain identity" to the UE. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "Message not compatible with receiver state" shall also be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	Only message type is provided
2	→		RRC STATUS	
3		←	DOWNLINK DIRECT TRANSFER	
4	→		RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER (Step 1)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 2)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol error information – Protocol error cause	ASN.1 violation or encoding error

DOWNLINK DIRECT TRANSFER (Step 3)

Information Element	Value/remark
CN domain identity	CS domain or PS domain as unselected domain
NAS message	Arbitrary message.

RRC STATUS (Step 4)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Identification of received message type - Received message type - RRC transaction identifier Protocol error information – Protocol error cause	 DOWNLINK DIRECT TRANSFER Same value in the DOWNLINK DIRECT TRANSFER message in step 3. Message not compatible with receiver state

8.1.6.2.5 Test requirement

After step 1 the UE shall transmit an RRC STATUS message on the DCCH using AM RLC setting "ASN.1 violation or encoding error" in IE "Protocol error cause".

After step 3 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting "Message not compatible with receiver state" in IE "Protocol error cause".

8.1.7 Security mode command

8.1.7.1 Security mode command 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 stop or start of ciphering or to command the restart of ciphering with the new ciphering configuration for the signalling radio bearers and any of radio bearers. It is also used to start integrity protection or modify integrity protection configuration for the signalling radio bearers.

2. When the UE receives a SECURITY MODE COMMAND message from the UTRAN, which indicates the downlink activation time and new ciphering mode 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. After the UE has transmitted a SECURITY MODE COMPLETE message using the new integrity protection configuration which includes uplink activation time, it shall start to cipher transmission in the uplink using the new configuration at the uplink activation time.

Reference

3GPP TS 25.331 clause 8.1.12.

8.1.7.1.3 Test purpose

To confirm that the UE 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. To confirm that UE sends a SECURITY MODE FAILURE message when SS transmits an incompatible simultaneous SECURITY MODE COMMAND messages to UE. To confirm that UE send SECURITY MODE

FAILURE message when SS transmits a SECURITY MODE COMMAND message that causes invalid configuration. To confirm that UE send SECURITY MODE FAILURE message when UE receives an invalid SECURITY MODE COMMAND message.

8.1.7.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a SECURITY MODE COMMAND message which does not include any IEs except IE "Message Type". The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH. Then SS transmits a SECURITY MODE COMMAND message with IE "Ciphering mode command" set to "stop". Again 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" IE for RB2 and "Integrity check info" IE. Following that, SS immediately transmit another valid SECURITY MODE COMMAND message to UE. Then the UE shall check the integrity check info and shall start to configure ciphering in downlink according to the first valid SECURITY MODE COMMAND message. Upon the reception of the subsequent SECURITY MODE COMMAND message, the UE shall transmit SECURITY MODE FAILURE message to SS with IE "failure cause" set to "incompatible simultaneous reconfiguration". Then UE shall transmit a SECURITY MODE COMPLETE message which contains the uplink activation time for RB2 and also "Integrity check info" IE using the new integrity protection configuration. SS records the uplink ciphering activation time for RB 2. Next, SS transmits UE CAPABILITY ENQUIRY message repeatedly on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS then send UE CAPABILITY INFORMATION CONFIRM message to UE. This cycle repeats itself until both the uplink and downlink ciphering activation time for RB 2 has elapsed. SS checks all uplink UE CAPABILITY INFORMATION messages are integrity-protected by UIA algorithm, and that the messages contain the correct values for "Integrity check info" IE. This can be verified in SS through the reception of a correctly ciphered and integrity-protected UE CAPABILITY INFORMATION message.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				RRC connected state on DCH_state.
2		←	SECURITY MODE COMMAND	See message content.
3	→		SECURITY MODE FAILURE	IE "Failure Cause" shall be set to "Protocol Error" and IE "Protocol Error Information" shall be set to " ASN.1 violation or encoding error ".
4		←	SECURITY MODE COMMAND	See message content.
5	→		SECURITY MODE FAILURE	IE "Failure Cause" shall be set to "invalid configuration".
6		←	SECURITY MODE COMMAND	See specific message contents.
7		←	SECURITY MODE COMMAND	See specific message contents.
8	→		SECURITY MODE FAILURE	IE "Failure Cause" shall be set to "Incompatible simultaneous reconfiguration".
9	→		SECURITY MODE COMPLETE	SS verifies that this message is sent unciphered. SS records the uplink ciphering activation time for RB 2.
10		←	UE CAPABILITY ENQUIRY	SS repeats step 10, 11 and 12 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.
11	→		UE CAPABILITY INFORMATION	UE shall send this message on the uplink DCCH using RLC-AM. SS verifies that the last UE CAPABILITY INFORMATION message is both integrity-protected and ciphered correctly.
12		←	UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
All IEs	Not Present

SECURITY MODE FAILURE (Step 3)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Protocol error
Protocol error information	
Protocol error cause	ASN.1 violation or encoding error

SECURITY MODE COMMAND (Step 4)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUE~~FALSE~~
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
- Ciphering mode command	
Integrity protection mode info	Stop
- Integrity protection mode command	
- Downlink integrity protection activation info	Start
- Integrity protection algorithm	Not Present
- Integrity protection initialisation number	UIA1
CN domain identity	0000 0000 0000 0000H (FRESH)
	Supported domain

SECURITY MODE FAILURE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Invalid configuration

SECURITY MODE COMMAND (Step 6 and 7)

See notes below for the value of Y.

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUE~~FALSE~~
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	Use one of the supported ciphering algorithms
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	UIA1
	0000 0000 0000 0000 H (FRESH)
	Supported domain
Integrity protection initialisation number	
CN domain identity	

Note   Y=4 (Step 6), Y= 100 (Step 7)

SECURITY MODE FAILURE (Step 8)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Incompatible simultaneous reconfiguration

SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
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'

8.1.7.1.5   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.

After step 4 the UE shall transmit a SECURITY MODE FAILURE message to report on the invalid configuration detected in the second SECURITY MODE COMMAND message.

After step 7, UE shall transmit SECURITY MODE FAILURE to SS to indicate an error due to incompatible simultaneous reconfiguration.

After step 8 the UE shall RLC-acknowledge the receipt of the first valid SECURITY 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 9 SS verifies that all uplink signalling messages on RB2 are integrity protected with UIA1 algorithm.

After uplink ciphering activation time has lapsed, SS verifies that the UE CAPABILITY INFORMATION message received is integrity protected with UIA algorithm and ciphered with the algorithm indicated in the SECURITY MODE COMMAND (Step 6) message.

After downlink ciphering activation time has lapsed, SS shall apply ciphering to all downlink messages At least one more cycle between step 10 and step 12 shall be repeated correctly after activation time on both directions has lapsed and the messages on both direction shall be ciphered and integrity protected..

8.1.7.2   Security mode command 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 for the signalling radio bearers and any of radio bearers. It is also used to start integrity protection or modify integrity protection configuration for signalling radio bearers .

2. When the UE receives a SECURITY MODE COMMAND message from the UTRAN, which indicates the downlink activation time and new ciphering mode 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. To confirm that UE send SECURITY MODE FAILURE message when UE receives an invalid SECURITY MODE COMMAND message.

8.1.7.2.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits a SECURITY MODE COMMAND message which does not include any IEs except IE "Message Type". The UE 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 using the new integrity protection configuration. This message shall contain the IE "Integrity check info". SS records the uplink ciphering activation time for RB 2. Next, SS transmits UE CAPABILITY ENQUIRY message repeatedly on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS checks all uplink messages are integrity-protected by UIA1 algorithm, and that the messages contain the correct values for "Integrity check 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 UE CAPABILITY INFORMATION message.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				UE is initially in CELL_FACH state.
2	←		SECURITY MODE COMMAND	See specific message content
3	→		SECURITY MODE FAILURE	IE "Failure Cause" shall be set to "Protocol Error" and IE "Protocol Error Information" shall be set to " ASN.1 violation or encoding error ".
4			Void	
5			Void	
6			Void	
7			Void	
8	←		SECURITY MODE COMMAND	See specific message contents.
9	→		SECURITY MODE COMPLETE	SS verifies that this message is sent unciphered. SS records the uplink ciphering activation time for RB 2.
10	←		UE CAPABILITY ENQUIRY	SS repeats step 10,11 and 12 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.
11	→		UE CAPABILITY INFORMATION	UE shall send this message on the uplink DCCH using RLC-AM. SS verifies that the last UE CAPABILITY INFORMATION message is both integrity-protected and ciphered correctly.
12	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
All IEs	Not Present

SECURITY MODE COMMAND (Step 8)

See notes below for the value of Y.

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUE~~FALSE~~
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	Use one of the supported ciphering algorithms
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	2
RLC sequence number	Current RLC SN + 4
Integrity protection mode info	
Integrity protection mode command	Start
Downlink integrity protection activation info	Not Present
Integrity protection algorithm	UIA1
	0000 0000 0000 0000 H (FRESH)
	Supported domain
Integrity protection initialisation number	
CN domain identity	

SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
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'

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.

After step 8 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 9 SS verifies that all uplink signalling messages on RB2 are integrity protected with UIA1 algorithm.

After uplink ciphering activation time has lapsed, SS verifies that the UE CAPABILITY INFORMATION message received is integrity protected with UIA algorithm and ciphered with the algorithm indicated in the SECURITY MODE COMMAND (Step 8) message.

After downlink ciphering activation time has lapsed, SS shall apply ciphering to all downlink messages. At least one more cycle between step 10 and step 12 shall be repeated correctly after activation time on both directions has lapsed and the messages on both directions shall be ciphered and integrity protected.

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.

When the UE receives an invalid COUNTER CHECK message, the UE shall perform procedure specific error handling.

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 6-10) 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 invalid COUNTER CHECK message. This message lacks all IEs except IE "Message Type". 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. The SS transmits a COUNTER

CHECK message which includes a different 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	See specific message contents for this message
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".
8	←		COUNTER CHECK	See specific message content.
9	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

COUNTER CHECK (Step 2)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 3)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding error"

COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	20
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#20 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#20 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent

COUNTER CHECK (Step 6)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Check to see if set to 20
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#20
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#20

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink

COUNTER CHECK (Step 8)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Check to see if set to 25
- COUNT-C MSB uplink	Arbitrary COUNT-C MSB in uplink for RB#25
- COUNT-C MSB downlink	Arbitrary COUNT-C MSB in downlink for RB#25

COUNTER CHECK RESPONSE (Step 9)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink
- RB identity	Check to see if set to 25
- COUNT-C uplink	Check to see if COUNT-C MSB is set to COUNT-C MSB in uplink for RB#25 in step 8 and LSB is fill with '0'
- COUNT-C downlink	Check to see if COUNT-C MSB is set to COUNT-C MSB in downlink for RB#25 in step 8 and LSB is fill with '0'

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 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#20.

After step 8, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that RB#25 is not found in variable ESTABLISHED_RABS and RB#20 is not found in IE "RB COUNT-C MSB information".

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.

When the UE receives an invalid COUNTER CHECK message, the UE shall perform procedure specific error handling.

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 invalid COUNTER CHECK message. This message lacks all IEs. 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. The SS transmits a COUNTER CHECK message which includes a different 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_FACH state after an outgoing call has been established successfully.
2	←		COUNTER CHECK	See specific message contents for this message
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".
8	←		COUNTER CHECK	See specific message content.
9	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

COUNTER CHECK (Step 2)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 3)

Information Element	Value/remark
Message Type	
Protocol Error Information	
- Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding"

COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	20
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#20 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#20 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent

COUNTER CHECK (Step 6)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	20
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#20
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#20

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink

COUNTER CHECK (Step 8)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Check to see if set to 25
- COUNT-C MSB uplink	Arbitrary COUNT-C MSB in uplink for RB#25
- COUNT-C MSB downlink	Arbitrary COUNT-C MSB in downlink for RB#25

COUNTER CHECK RESPONSE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink
- RB identity	Check to see if set to 25
- COUNT-C uplink	Check to see if COUNT-C MSB is set to COUNT-C MSB in uplink for RB#25 in step 8 and LSB is fill with '0'
- COUNT-C downlink	Check to see if COUNT-C MSB is set to COUNT-C MSB in downlink for RB#25 in step 8 and LSB is fill with '0'

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 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#20.

After step 8, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that RB#25 is not found in variable ESTABLISHED_RABS and RB#20 is not found in IE "RB COUNT-C MSB information".

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 CN domain identity of the connection 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 transmit 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 CN domain identity 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
CN domain identity	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 CN domain identity as that found in the INITIAL DIRECT TRANSFER message.

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1** CR **135** ⌘ ev **-** ⌘ Current version: **4.1.0** ⌘

*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: ⌘	Updates and corrections of L2/PDCP conformance testing	
Source: ⌘	CETECOM GmbH	
Work item code: ⌘	TEI	***Date:*** ⌘ 2001-02-11

Category: ⌘ **F**

Use <u>one</u> of the following categories:
F (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 <u>TR 21.900</u>.

Release: ⌘ REL-4

Use <u>one</u> 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: ⌘	Updates and corrections of L2/PDCP conformance testing, 3GPP TS 34.123-1, clause 7.3
Summary of change: ⌘	1. Updated IE " PDCP Capability" used in IE " UE radio access capability " as defined in TS 25.331 version 4.3.0 (RRC), clause 10.3.3.24 to be used for PDCP test configuration in TS 34.123-1, clause 7.3 (CONNECTION SETUP COMPLETE message). 2. Update of test data packet sizes to be used for PDCP testing. According the TTCN for PDCP testing, the maximum test data packet size is reduced to 1500 bytes. It refers to TS 23.107, clause 6.5.1and 6.5.2 where ranges of QoS attributes are defined (if no loop test mode is established). 3. Correction of IE "PDCP Info" used in IE " RAB information for setup" as defined in TS 25.331 version 4.3.0 (RRC), clause 10.3.4.2: "EXPECTED_REORDERING": the default value is set to "reordering not expected"
Consequences if not approved: ⌘	PDCP tests are not corrected

Clauses affected: ⌘	clause 7.3 PDCP
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Releases affected: R99 and REL-4

7.3 PDCP

7.3.1 General

7.3.1.1 General assumptions

If not otherwise mentioned, the same procedures as used in RRC test specification (TS 34.123-1) or in the Generic procedure (TS 34.108) applies to reach Initial conditions for PDCP testing. In this test description, common test sequences for PDCP (clause 7.3.4.1) are defined and are applied either as preamble or post amble to establish or release a Packet Switched (PS) connection for a test case.

If not explicitly described, the same message contents and settings are applied as described in the RRC test description default settings.

Detailed IP header compression coding mechanism as well as mechanism related error recovery and packet reordering described in IETF RFC 2507 are not verified.

For PDCP testing TCP/IP data type and UDP/IP data type as Non-TCP/IP data types are applied for IP data.

An UE supporting IP Header compression protocol RFC 2507 shall be capable to store a header compression context of at least 512 bytes (Integer).

It shall be possible to reconfigure PDCP settings while UE test loop mode 1. With the applied test method using UE test loop mode 1, the UE as Originator and Receiver of PDCP SDUs (concurrent transmission) is tested.

7.3.1.2 Common Test sequences and Default message contents for PDCP

General

The settings and parameter used in the "Common Test sequences for PDCP" are described in the "Default PDCP Message Contents". If not explicitly shown there, the message contents are identical with the default contents for the same message type of layer 3 messages for RRC tests, to establish a packet switched session or connection. The contents of test case specific message parameters are described in the test case (Expected Sequence). If not explicitly shown, default settings and parameter are used as message content for all Common Test sequences.

7.3.1.2.1 Common Test sequences for PDCP

7.3.1.2.1.1 Setup a UE terminated PS session using IP Header compression in AM RLC (using UE Test loop test mode 1)

Initial Conditions

UE is in Idle mode.

Test procedure

After having received the System Information, the SS starts to setup a RRC connection. After connection establishment and Radio Bearer Setup, the UE test loop mode 1 is activated and the UE test loop mode 1 is closed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	SYSTEM INFORMATION	
2		←	PAGING TYPE 1	CN domain identity: PS domain Paging cause: interactive session
3	→		RRC CONNECTION REQUEST	
4		←	RRC CONNECTION SETUP	Connection Setup message PS sessions in AM RLC used in RRC testing matches here
5	→		RRC CONNECTION SETUP COMPLETE	
6		←	ACTIVATE RB TEST MODE	
7	→		ACTIVATE RB TEST MODE COMPLETE	
8		←	RADIO BEARER SETUP	The Radio Bearer configuration is as described in TS 34.108, clause 6.10, Prioritised RAB No. 23: QoS parameter: Traffic Class: Interactive or Background, max. UL:64 kbps max. DL:64 kbps, Residual BER as described in TS 34.108, clause: 6.10.
9	→		RADIO BEARER SETUP COMPLETE	
10		←	CLOSE UE TEST LOOP	The SS initiates UE test loop mode 1, indicated by the Parameter: "UE test loop mode" 1 (X1=0 and X2=0) The "DCCH dummy transmission" not used: disabled: (Y1=0)
11	→		CLOSE UE TEST LOOP COMPLETE	After having received the test mode acknowledgement, the UE test loop mode 1 is activated.

Specific message contents

The contents of test case specific message parameters are described in the test case (Expected Sequence). Default contents of messages are described in the clause Default PDCP Message Contents.

7.3.1.2.1.2   Setup a UE terminated PS session using IP Header compression in UM RLC (using UE Test loop test mode 1)

Initial Conditions

UE is in idle mode.

Test procedure

After having received the System Information, the SS starts to setup a RRC connection. After connection establishment and Radio Bearer Setup, the UE test loop mode 1 is activated and the UE test loop mode 1 is closed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		SYSTEM INFORMATION	
2	←		PAGING TYPE 1	CN domain identity: PS domain Paging cause: interactive session
3	→		RRC CONNECTION REQUEST	
4	←		RRC CONNECTION SETUP	Connection Setup message PS sessions in UM RLC used in RRC testing matches here
5	→		RRC CONNECTION SETUP COMPLETE	
6	←		ACTIVATE RB TEST MODE	
7	→		ACTIVATE RB TEST MODE COMPLETE	
8	←		RADIO BEARER SETUP	The Radio Bearer configuration is as described in TS 34.108, clause 6.10, Prioritised RAB No. 23: QoS parameter: Traffic Class: Interactive or Background, max. UL:64 kbps max. DL:64 kbps, Residual BER as described in TS 34.108, clause: 6.10.
9	→		RADIO BEARER SETUP COMPLETE	
10	←		CLOSE UE TEST LOOP	The SS initiates UE test loop mode 1, indicated by the Parameter: "UE test loop mode 1" (X1=0 and X2=0) The "DCCH dummy transmission" not used: disabled: (Y1=0)
11	→		CLOSE UE TEST LOOP COMPLETE	After having received the test mode acknowledgement, the UE test loop mode 1 is activated.

Specific message contents

The contents of test case specific message parameters are described in the test case (Expected Sequence) Default contents of messages are described in the clause Default PDCP Message Contents.

7.3.1.2.1.3 Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)

Initial Conditions

UE is in connected mode, a UE test loop mode 1 for PDCP is activated, and the UE loop mode 1 is "closed".

Test procedure

The UE opens the UE test loop mode 1, deactivates the test mode and the PS session, releases the Radio Bearer and enters Idle mode.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		OPEN UE TEST LOOP	The SS terminates the UE test loop mode 1, (see described parameter)
2	→		OPEN UE TEST LOOP COMPLETE	After having received the test mode acknowledgement, the test loopmode 1 is deactivated.
3	←		DEACTIVATE RB TEST MODE	SS deactivates the RB test mode
4	→		DEACTIVATE RB TEST MODE COMPLETE	UE shall confirm the previous message. Afterwards, the UE returns to normal operation
5	←		RRC CONNECTION RELEASE	SS terminates the connection
6	→		RRC CONNECTION RELEASE COMPLETE	UE confirms the connection release and returns to Idle mode

Specific message contents

The contents of test case specific message parameter is described in the test case (Expected Sequence). Default contents of messages are described in the clause Default PDCP Message Contents.

7.3.1.2.2 Default PDCP Message Contents

This clause contains the default values of RRC messages used for PDCP testing, other than those specified in TS 34.108 clauses 6 and 9, and default values of PDCP messages. Unless indicated otherwise in specific test cases, only PDCP related specific message contents are described here which shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test. If not explicitly described, the message contents are identical with the default contents for the same message type of layer 3 messages for RRC tests, to establish a packet switched session or connection.

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: 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 INFORMATION BLOCK TYPE 16 messages are not used.

Contents of CONNECTION SETUP message:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE
- System specific capability update requirement list	UE only supports 1 system

Contents of CONNECTION SETUP COMPLETE message:

Information Element	Value/remark
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	
- Max PDCP SN	
- Support of lossless SRNS relocation	
~~- Supported algorithm types~~	
- Support for RFC2507	
- Max HC context space	(TCP_SPACE + NON_TCP_SPACE))
~~- Maximum MAX_HEADER~~	
~~- Maximum TCP_SPACE~~	
~~- Maximum NON_TCP_SPACE~~	
- 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 ACTIVATE RB TEST MODE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000100B

Contents of ACTIVATE RB TEST MODE COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000101B

Contents of DEACTIVATE RB TEST MODE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000110B

Contents of DEACTIVATE RB TEST MODE COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000111B

Contents of CLOSE UE TEST LOOP message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000000B
UE test loop mode	000000100B (X2=0 and X1=0 for UE test mode 1, Y1=0 DCCH dummy transmission disabled)
UE test loop mode 1 LB setup	
- Length of UE loop mode 1 LB setup IE	4 octets
- LB setup list	
- LB setup RAB subflow #1	
- Z13…Z0 (Uplink RLC SDU size in bits)	0…16383 (binary coded, Z13 most significant bit); value as negotiated

Contents of CLOSE UE TEST LOOP COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000001B

Contents of OPEN UE TEST LOOP message:

Information Element	Value/remark
IE Identifier (only in AM)	1000xxxx
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000010B

Contents of OPEN UE TEST LOOP COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000011B

7.3.2 IP Header Compression and PID assignment

7.3.2.1 UE in RLC AM

7.3.2.1.1 Transmission of uncompressed Header

7.3.2.1.1.1 Definition and applicability

Applicable for all UEs supporting RLC AM and a Radio Bearer as described in the Common Test Sequences. The UE shall be capable to deal with TCP/IP and UDP/IP data packets with uncompressed IP header.

7.3.2.1.1.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

- PID value 0 is reserved permanently for no compression

Reference(s)

TS 25.323 clause 5.

TS 25.323 clause 5.1.1.

7.3.2.1.1.3 Test purpose

The test case consists of two test procedures:

The first test procedure verifies, that the "PDCP Data" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers. The second test procedure verifies, that the "PDCP No header" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers.

1. To verify, that the UE transmits and receives in acknowledged mode (RLC AM) TCP/IP and UDP/IP data packets without IP header compression as configured by higher layers.

2. To verify, that PID assignment rules are correctly applied, if usage of "PDCP Data" PDU are negotiated, i.e. the UE shall recognize PID value = 0 for a received TCP/IP and UDP/IP data packet and it shall use PID=0 to transmit IP data packets, if no IP header compression is negotiated. If usage of "PDCP No Header" PDU is negotiated, no PID assignment is used for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.1.1.4 Method of test

Initial conditions

UE is in idle mode.

Test procedure 1: Usage of "PDCP Data" PDU and no IP header compression is configured

Test procedure 2: No IP header compression is configured

Related ICS/IXIT Statement(s)

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet1

1. Test procedure: Transmission of uncompressed IP header packets using PDCP Data PDU

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.

b) The SS sends a TCP/IP data packet with uncompressed IP Header.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP Data PDU.

d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.

e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	**SS**		
Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression (PDCP Data PDU). The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction UE | SS	Message	Comments
2	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
3	←	PDCP Data	The SS creates a UDP/IP packet without IP header compression (PDCP Data PDU). The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS decodes the received data
Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)			

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup	
- RB identity	20
- PDCP info	
- Support of lossless SRNS relocation	False (IE " Support of lossless SRNS relocation " only present, if RLC "In-sequence delivery" is TRUE and in AM)
- PDCP PDU header	present
- RLC info	
- Downlink RLC mode	(AM RLC)

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

2.   Test procedure: Transmission of uncompressed IP header packets using No Header PDU

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP No Header" PDU has been configured by higher layers.

b)   The SS sends a TCP/IP data packet with uncompressed IP Header.

c)   After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP No Header PDU.

d)   The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.

e)   Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

f)   The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1)				
1	←		PDCP No Header	The SS creates a TCP/IP packet without IP header compression (PDCP No Header PDU). The SS sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: data: below described TCP/IP packet After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the TCP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2		→	PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
				The SS creates a UDP/IP packet without IP header compression (PDCP No Header PDU).

Step	Direction		Message	Comments
	UE	SS		
3		←	PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: data: below described UDP/IP packet After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the UDP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	→		PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS decodes the received data
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)			

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs.
	QoS parameter:
	Traffic Class: Interactive or Background,
	max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC
	Residual BER as described in TS 34.108, clause: 6.10
	Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
	PS domain
	20
- CN domain identity	
- RB information to setup	
- RB identity	
- PDCP info	False
- Support of lossless SRNS relocation	(IE " Support of lossless SRNS relocation " only present, if RLC "In-sequence delivery" is TRUE and in AM)
	absent
- PDCP PDU header	
- RLC info	(AM RLC)
- Downlink RLC mode	

Content of PDCP No Header PDU (Step 1)

Information Element	Value/remark
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP No Header PDU (Step 3)

Information Element	Value/remark
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

7.3.2.1.1.5　　　　　Test requirements

1. Test requirements: Transmission of uncompressed IP header packets using PDCP Data PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP Data PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

2. Test requirements: Transmission of uncompressed IP header packets using PDCP No Header PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP No Header PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

7.3.2.1.2 Transmission of compressed Header

7.3.2.1.2.1 Definition and applicability

Applicable for all UEs supporting RLC AM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol RFC 2507.

7.3.2.1.2.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1.

7.3.2.1.2.3 Test purpose

1. To verify, that the UE transmits and receives in acknowledged mode (RLC AM) TCP/IP and UDP/IP data packets by using IP header compression protocol as described in RFC2507 as configured by higher layers.

2. To verify, that the PID assignment rules are correctly applied by the UE. The UE as shall use the correct PID value for the applied optimisation method for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.1.2.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and IP header compression is configured

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

PIXIT: Test_PDCP_UDP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.

b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.

NOTE: According to the compression protocol RFC 2507, this is necessary to transmit the created CONTEXT and the assigned CID.

f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

g) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

h) The SS sends a TCP/IP data packet with packet type: Compressed_TCP, PID=2.

i) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

j) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

k) Step b) to d) is repeated for a "normal" UDP/IP data packet, PID=0.

l) Step e) to g) is repeated for a UDP/IP data packet with packet type: Full_Header, PID=1.

m) The SS sends a UDP/IP data packet with packet type: Compressed_non_TCP, PID=4.

n) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

o) The SS receives and decodes the UDP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

p) The SS deactivates the UE tests loop mode 1 and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression. The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	←		PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 1 applied for this TCP/IP data packet and decompresses it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction UE | SS	Message	Comments
4	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
5	←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 2 (Compressed_TCP packet type) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 2 applied for this TCP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
6	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 () data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
7	←	PDCP Data	The SS creates a UDP/IP packet without compressed IP header compression. The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction		Message	Comments
	UE	**SS**		
8	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.

Step	Direction		Message	Comments
	UE	SS		
9		←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
10	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
11		←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 4 (Compressed _non-TCP packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 4 applied for this UDP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
12	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)				

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108) PS domain
- CN domain identity - RB information to setup - RB identity	 20
- PDCP info - Support of lossless SRNS relocation	 False (IE " Support of lossless SRNS relocation " only present, if RLC "In-sequence delivery" is TRUE and in AM)

- PDCP PDU header
    - Header compression information
      CHOICE *algorithm type*
        - RFC2507
	present
	1

- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~reordering not expected (Default)
- RLC info - Downlink RLC mode	 (AM RLC)

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 5)

Information Element	Value/remark
PDU type	000
PID	00010 (Compressed_TCP, PID = 2)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 7)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 9)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 11)

Information Element	Value/remark
PDU type	000
PID	00100 (Compressed_non-TCP, PID = 4)
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

7.3.2.1.2.5 Test requirements

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled with the correct compression protocol. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

7.3.2.2 UE in RLC UM

7.3.2.2.1 Transmission of uncompressed Header

7.3.2.2.1.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with TCP/IP and UDP/IP data packets with uncompressed IP header.

7.3.2.2.1.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

- PID value 0 is reserved permanently for no compression

Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1.

7.3.2.2.1.3 Test purpose

The test case consists of two test procedures:

The first test procedure verifies, that the "PDCP Data" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers. The second test procedure verifies, that the "PDCP No header" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers.

1. To verify, that the UE transmits and receives in unacknowledged mode (RLC UM) TCP/IP and UDP/IP data packets without IP header compression as configured by higher layers.

2. To verify, that PID assignment rules are correctly applied, if usage of "PDCP Data" PDU are negotiated, i.e. the UE shall recognize PID value = 0 for a received TCP/IP and UDP/IP data packet and it shall use PID=0 to transmit IP data packets, if no IP header compression is negotiated. If usage of "PDCP No Header" PDU is negotiated, no PID assignment is used for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.2.1.4 Method of test

Initial conditions

UE is in Idle mode.

Test procedure 1: Usage of "PDCP Data" PDU and no IP header compression is configured

Test procedure 2: no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet1

1. Test procedure: Transmission of uncompressed IP header packets using PDCP Data PDU

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.

b) The SS sends a TCP/IP data packet with uncompressed IP Header.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP Data PDU.

d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.

e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction UE	Direction SS	Message	Comments
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression (PDCP Data PDU). The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2		→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
				The SS creates a UDP/IP packet without IP header compression (PDCP Data PDU).

Step	Direction UE | SS	Message	Comments
3	←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS decodes the received data
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)		

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108) PS domain 21

- CN domain identity
- RB information to setup
  - RB identity
  - PDCP info
    - PDCP PDU header
  - RLC info
    - Downlink RLC mode
	present
	
	(UM RLC)

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type PID Data	000 00000 (No header compression, PID = 0) PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type PID Data	000 00000 (No header compression, PID = 0) PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

2. Test procedure: Transmission of uncompressed IP header packets using No Header PDU

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP No Header" PDU has been configured by higher layers.

b) The SS sends a TCP/IP data packet with uncompressed IP Header.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP No Header PDU.

d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.

e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

f) The SS deactivates the Loop back test mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1	←		PDCP No Header	The SS creates a TCP/IP packet without IP header compression (PDCP No Header PDU). The SS sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: data: below described TCP/IP packet After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the TCP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→		PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
				The SS creates a UDP/IP packet without IP header compression (PDCP No Header PDU).

Step	Direction UE | SS	Message	Comments
3	←	PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: data: below described UDP/IP packet

After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the UDP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.

The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity. |
| 4 | → | PDCP No Header | The UE sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet

After reception of this UDP/IP data packet, the SS decodes the received data |
| | | Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1) | |

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs.
	QoS parameter:
	Traffic Class: Interactive or Background,
	max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC
	Residual BER as described in TS 34.108, clause: 6.10
	Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup	
- RB identity	21
- PDCP info	
	False
- PDCP PDU header	absent
- RLC info	
- Downlink RLC mode	(UM RLC)

Content of PDCP No Header PDU (Step 1)

Information Element	Value/remark
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP No Header PDU (Step 3)

Information Element	Value/remark
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

7.3.2.2.1.5   Test requirements

1. Test requirements: Transmission of uncompressed IP header packets using PDCP Data PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP Data PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

2. Test requirements: Transmission of uncompressed IP header packets using PDCP No Header PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP No Header PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

7.3.2.2.2   Transmission of compressed Header

7.3.2.2.2.1   Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol RFC 2507.

7.3.2.2.2.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

Reference(s)

TS 25.323 clause 5.

TS 25.323 clause 5.1.1.

7.3.2.2.2.3 Test purpose

1. To verify, that the UE transmits and receives in unacknowledged mode (RLC UM) TCP/IP and UDP/IP data packets by using IP header compression protocol as described in RFC2507 as configured by higher layers.

2. To verify, that the PID assignment rules are correctly applied by the UE. The UE as shall use the correct PID value for the applied optimisation method for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.2.2.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

PIXIT: Test_PDCP_UDP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.

b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

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d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.

NOTE: According to the compression protocol RFC 2507, this is necessary to transmit the created CONTEXT and the assigned CID.

f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

g) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

h) The SS sends a TCP/IP data packet with packet type: Compressed_TCP, PID=2.

i) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

j) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

k) Step b) to d) is repeated for a "normal" UDP/IP data packet, PID=0.

l) Step e) to g) is repeated for a UDP/IP data packet with packet type: Full_Header, PID=1.

m) The SS sends a UDP/IP data packet with packet type: Compressed_non_TCP, PID=4.

n) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

o) The SS receives and decodes the UDP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

p) The SS deactivates the UE test loop test mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	**SS**		
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression. The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	←		PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 1 applied for this TCP/IP data packet and decompresses it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.

Step	Direction		Message	Comments
	UE	SS		
4	→		PDCP Data	The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS:
PDU type = 000 (PDCP Data PDU)
PID value = 0 to 3
data: previously received TCP/IP packet

After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID. |
| 5 | | ← | PDCP Data | The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE:
PDU type = 000 (PDCP Data PDU)
PID = 2 (Compressed_TCP packet type)
data: below described TCP/IP packet

After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 2 applied for this TCP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. |
| 6 | → | | PDCP Data | The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS:
PDU type = 000 (PDCP Data PDU)
PID value = 0 to 3
data: previously received TCP/IP packet

After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID. |
| 7 | | ← | PDCP Data | The SS creates a UDP/IP packet without compressed IP header compression.

The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE:
PDU type = 000 (PDCP Data PDU)
PID = 0 (uncompressed IP header)
data: below described UDP/IP packet
After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet.
Therefore, no IP header decompression is applied for this packet.

The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. |

Step	Direction UE | SS	Message	Comments
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
8	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
9	←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
10	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: below described UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
11	←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 4 (Compressed _non-TCP packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.

Step	Direction		Message	Comments
	UE	SS		
				The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
12	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)			

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	21
- PDCP info	False
- PDCP PDU header	present
- Header compression information	1

CHOICE *algorithm type*
      - RFC2507
       - F_MAX_PERIOD
	256 (Default)

- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~reordering not expected (Default)
- RLC info - Downlink RLC mode	(UM RLC)

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 5)

Information Element	Value/remark
PDU type PID Data	000 00010 (Compressed_TCP, PID = 2) PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 7)

Information Element	Value/remark
PDU type PID Data	000 00000 (No header compression, PID = 0) PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 9)

Information Element	Value/remark
PDU type PID Data	000 00001 (Full_Header, PID = 1) PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 11)

Information Element	Value/remark
PDU type PID Data	000 00100 (Compressed_non-TCP, PID = 4) PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

7.3.2.2.2.5   Test requirements

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled with the correct compression method. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

7.3.2.2.3   Extension of used compression methods

7.3.2.2.3.1   Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol: RFC 2507.

7.3.2.2.3.2   Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

-    ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

The PDCP layer shall be able to support several header compression protocols and it shall always be possible to extend the list of supported protocols in the future.

The table (PID value allocation table) is reconfigured every time the PDCP entity is reconfigured, with a change in the supported header compression protocols.

The assignment of the PID values follow the general rules listed below:

- PID values are reassigned for the PDCP entity after renegotiation of the header compression protocols;

- the list of negotiated (or re-negotiated) header compression entities shall be examined, starting from the first one in the list. The number of PID values to be assigned is specified in the clause for this protocol.

Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1

7.3.2.2.3.3   Test purpose

1. To verify, that the UE is able to handle an extended PID value allocation table after PDCP reconfiguration as configured by RRC.

7.3.2.2.3.4   Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions (with the UE test loop mode 1). Usage of "PDCP Data PDU" and no optimisation method has been configured by higher layers.

b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

e) The SS reconfigures (using RRC Radio Bearer Reconfiguration message) the PDCP entity by extending the PID value allocation table and therefore the applied optimisation method with the IP header compression protocol RFC 2507. The UE test loop mode 1 in RLC UM is still active.

f) The SS sends a TCP/IP data packet (no compression packet type), PID=0.

g) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

h) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

i) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.

j) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

k) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

l) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression. The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2		→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	←		RRC RADIO BEARER RECONFIGURATION	SS extends the "PID value allocation table" with IP header compression PID (RFC 2507) in the UE.
4		→	RRC RADIO BEARER RECONFIGURATION COMPLETE	UE acknowledges the new settings
5	←		PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (normal packet type [TCP/IP]) data: below described TCP/IP packet. After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction		Message	Comments
	UE	**SS**		
6	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
7		←	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this TCP/IP data packet and shall decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
8	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)			

Specific Message Contents

RRC RADIO BEARER RECONFIGURATION message

The contents of the RRC RADIO BEARER RECONFIGURATION message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	1
RB information to reconfigure	
- PDCP info	
- PDCP PDU header	present
- Header compression information	1
CHOICE *algorithm type*	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~reordering not expected (Default)

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	21
- PDCP info - PDCP PDU header	present
- RLC info - Downlink RLC mode	(UM RLC)

Content of PDCP Data PDU (Step 1 and 5)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP Data PDU (Step 7)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

7.3.2.2.3.5   Test requirements

After PDCP reconfiguration, the UE shall return the TCP/IP data packets as indication, that the extension of used optimisation method are applied by UE. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

7.3.2.2.4 Compression type used for different entities

7.3.2.2.4.1 Definition and applicability

Applicable only for an UE supporting the establishment of more than one PDCP entity in parallel, i.e. it shall be possible to configure more than one Radio Bearer Loop Back entities (each PDCP entity are assigned via PDCP-SAP to its own Radio Bearer Loop Back entity).

Applicable for all UEs supporting two Radio Bearers in RLC UM and RLC AM as described in this test case, clause 7.3.2.2.4.6 Combined PDCP Acknowledged and Unacknowledged mode configuration..

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore it shall apply IP header compression protocol RFC 2507.

7.3.2.2.4.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

The assignment of the PID values follow the general rules listed below:

- PID values are assigned independently to each PDCP entity;

Different PDCP entities may include header compression protocols of the same type

Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1

7.3.2.2.4.3 Test purpose

NOTE: For this test case, the SS shall be configured to handle more than one received PDCP messages.

1. To verify, that a configured IP header compression protocol are applied to compress and decompress TCP/IP data packets by several PDCP entities in parallel, if more than one entities are established, i.e. the UE uses the same PID to transmit two TCP/IP data packets with the same content in parallel using two Radio Bearer configurations.

7.3.2.2.4.4 Method of test

Initial conditionsUE is in Idle mode. Usage of "PDCP Data" PDU and IP header compression is configured for both PDCP entities.

Related ICS/IXIT Statement(s)

Establishment of more than one PDCP entities - YES/NO

Support of IP header compression protocol RFC 2507 - YES/NO

Support of UM RB and AM RB

Support of PS – Yes/No

IXIT: Test_PDCP_TCP/IP_Packet1

IXIT: Test_PDCP_TCP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including two radio bearer configurations in parallel in UE test loop mode 1 and in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of IP header compression protocol RFC 2507 has been configured by higher layers.

b) The SS sends two successive a "normal" TCP/IP data packet, PID=0 via both PDCP configurations to their peer entities.

c) After having received the TCP/IP data packets, the PDCP entities of the UE shall recognize the PID value and shall handle the received data packet independent of the used PID with the correct decompression method. Then they forward the data to their Radio Bearer Loop Back entity. Both received data shall be returned by each Radio Bearer Loop Back entity.

d) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.

e) After having received the TCP/IP data packets, the PDCP entities of the UE shall recognize the PID value and shall handle the received data packets independent of the used PID with the correct decompression method. Then they forward the data to their Radio Bearer Loop Back entity. Both received data shall be returned by each Radio Bearer Loop Back entity.

f) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.

g) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS sends two successive a PDCP Data PDU using the RLC-UM-Data-Request Primitive via both PDCP entities with the following contents to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
				After having received both PDCP Data PDUs, the UE decodes each PDU and recognizes PID value = 0 (no IP header compression applied for both TCP/IP data packets).
				Although the same PID is used for both PDUs, the UE shall handle they with the correct method and it forwards both data packets via PDCP-SAPs to their Radio Bearer Loop Back (RB LB) entities.
				The RB LB entities in UE test loop mode 1 return the received data packets and send they back to their PDCP entities.

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Step	Direction		Message	Comments
	UE	SS		
2	→		PDCP Data	The UE sends back for each PDCP configuration a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of TCP/IP data packets, the SS applies the appropriate decoding function for both received messages depending on which PID was assigned to the received data
3	←		PDCP Data	The SS sends two successive a PDCP Data PDU using the RLC-UM-Data-Request Primitive via both PDCP entities with the following contents to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet After having received both PDCP Data PDUs, the UE decodes each PDU and recognizes PID value = 1 (Full_Header packet type applied for both TCP/IP data packets). Although the same PID is used for both PDUs, the UE shall handle they with the correct method and it forwards both data packets via PDCP-SAPs to their Radio Bearer Loop Back (RB LB) entities. The RB LB entities in UE test loop mode 1 return the received data packets and send they back to their PDCP entities.
4	→		PDCP Data	The UE sends back for each PDCP configuration a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet After reception of TCP/IP data packets, the SS applies the appropriate decoding function for both received messages depending on which PID was assigned to the received data
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)			

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup	
- RB identity	20
- PDCP info	
- PDCP PDU header	present
- Header compression information	1
CHOICE *algorithm type*	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~<u>reordering not expected</u> (Default)
- RLC info	
- Downlink RLC mode	(AM RLC)
- RB information to setup	(NOTE: for RB ID 21, the same RAB configurations are used (No. # 23 as described in TS 34.108) as described for RB ID 20)
- RB identity	21
- PDCP info	
- PDCP PDU header	present
- Header compression information	1
CHOICE *algorithm type*	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~<u>reordering not expected</u> (Default)
- RLC info	
- Downlink RLC mode	(UM RLC)

Content of both PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type PID Data	000 00000 (No header compression, PID = 0) PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of both PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type PID Data	000 00001 (Full_Header, PID = 1) PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

7.3.2.2.4.5   Test requirements

The UE shall return both TCP/IP data packets as indication that the previous received data packets associated with the same PID value are handled in parallel with the same decompression protocol. This verifies, that more than one PDCP configuration on UE side using the same compression protocol is able to apply it in parallel.

7.3.2.2.4.6   Combined PDCP Acknowledged and Unacknowledged mode configuration

This configuration is based on the interactive or background / UL:64 DL 64 kbps / PS RAB. The SRB configurations are UL:3.4 DL:3.4 kbps for DCCH aligned to this combined RABs are described for SRB DL 3.4 kbps in TS 34.108, clause 6.10.2.4.1.2.2 and for SRB DL 3.4 kbps in TS 34.108, clause 6.10.2.4.1.2.1. The TFCS refer to TS34.108, clause 6.10.2.4.1.24.1.1.3 for UL and clause 6.10.2.4.1.25.2.1.3 for DL, the Physical channel parameters refer to TS 34.108, clause 6.10.2.4.1.24.1.2 for UL clause 6.10.2.4.1.25.2.2 and for DL accordingly. The configuration is applied to PDCP test cases using both the acknowledged and unacknowledged mode.

Table 7.3.2.2.4/1 Uplink Transport channel parameter for combined RABs PS AM_UM

Higher layer	RAB/Signalling RB		**RAB #20**	**RAB #21**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	UM
	Payload sizes, bit		316	324
	Max data rate, bps		63200	64800
	TrD PDU header, bit		16	8
MAC	MAC header, bit		4	
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		336	
	TFS	TF0, bits	0x336	
		TF1, bits	1x336	

	TF2, bits	2x336
	TF3, bits	3x336
	TF4, bits	4x336
TTI, ms		20
Coding type		TC
CRC, bit		16
Max number of bits/TTI after channel coding		4236
Uplink: Max number of bits/radio frame before rate matching		2118
RM attribute		130-170

Table 7.3.2.2.4/2 Downlink Transport channel parameter for combined RABs PS AM_UM

Higher layer	RAB/Signalling RB		**RAB #20**	**RAB #21**
RLC	Logical channel type		DTCH	DTCH
	RLC mode		AM	UM
	Payload sizes, bit		316	324
	Max data rate, bps		63200	64800
	TrD PDU header, bit		16	8
MAC	MAC header, bit		4	
	MAC multiplexing		2 logical channel multiplexing	
Layer 1	TrCH type		DCH	
	TB sizes, bit		336	
	TFS	TF0, bits	0x336	
		TF1, bits	1x336	
		TF2, bits	2x336	
		TF3, bits	3x336	
		TF4, bits	4x336	
	TTI, ms		20	
	Coding type		TC	
	CRC, bit		16	
	Max number of bits/TTI after channel coding		4236	
	RM attribute		130-170	

7.3.2.2.5 Reception of not defined PID values

7.3.2.2.5.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore to establish a PDCP entity, which applies PDCP Data PDU if no IP header compression protocol, is negotiated.

The UE shall not forward invalid PDCP PDU data contents to its Radio Bearer.

7.3.2.2.5.2 Conformance requirement

PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol;

PID values that are used and are not defined invalidate the PDCP PDU;

Reference(s)

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1.2.1

7.3.2.2.5.3 Test purpose

1. To verify, that a UE considers a received PDCP PDU message with not defined PID value as invalid, i.e. such an invalid PDCP PDU is not forwarded to the Radio Bearer entity on UE side. Therefore the UE using test loop mode 1 does not return such data packet to the SS.

7.3.2.2.5.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured.

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS – Yes/No

IXIT: Test_PDCP_TCP/IP_Packet1

IXIT: Test_PDCP_TCP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data PDU" and no PDCP IP header compression protocol has been configured by higher layers.

b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decoding method. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

d) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.

e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.

f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decoding method.

g) The SS waits an amount of time to make sure, that no returned data packet was sent by UE.

h) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1	←		PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2		→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	←		PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet. After having received the PDCP Data PDU, the UE shall recognize, that a not defined PID value (as configured by higher layers) is inserted in the PDCP PDU. The UE shall consider this PDU as invalid, i.e. the data packet is not forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. Therefore this data packet is not returned to the SS.
4				The SS waits a amount of time to make sure, that the previously sent data packet is not returned to the SS.
Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)				

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	21
- PDCP info - PDCP PDU header	present
- RLC info - Downlink RLC mode	(UM RLC)

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type PID Data	000 00001 (Full_Header, PID = 1) PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

7.3.2.2.5.5 Test requirements

The UE shall return the received TCP/IP data packet using the PDCP Data PDU with PID = 0 as indication, that the UE works as configured.

The UE shall not return the TCP/IP data packet using the PDCP Data PDU with PID = 1 as indication, that this PDU was considered as invalid by the UE. This verifies, that the PDCP configuration on UE side has considered this PDU as invalid.

7.3.3 PDCP sequence numbering when lossless SRNS Relocation

7.3.3.1 Data transmission if lossless SRNS Relocation is supported

7.3.3.1.1 Definition and applicability

Applicable for all UEs supporting RLC AM, RLC in-sequence delivery, a Radio Bearer as described in the Common Test Sequences and lossless SRNS relocation.

The UE shall be capable to deal with uncompressed TCP/IP data packets and furthermore to establish a PDCP entity which applies PDCP Sequence Numbering

7.3.3.1.2 Conformance requirement

The PDCP layer shall carry out the following functions during lossless SRNS relocation:

-   support PDCP sequence numbering as specified in clause 5.4.1.

The PDCP layer shall carry out the following during lossless SRNS relocation:

-   provide unconfirmed PDCP SDUs and sequence numbers for forwarding to the target RNC.

Reference(s)

TS 25.323 clause 5.4

7.3.3.1.3 Test purpose

1. To verify, that a UE supporting lossless SRNS relocation is able to receive and to send IP data packets by using PDCP Sequence Numbering as configured by higher layers.

7.3.3.1.4 Method of test

Initial conditions

SS: 2 cells - Cell A belonging to the valid SRNS (Source SRNS), Cell B belonging to the DRNS (Target SRNS). Both cells are neighbour cells. Cell A has a higher RF power level than Cell B such that an UE shall find Cell A more suitable for service.

UE: It is in Idle mode and has selected cell A with valid SRNS (Source SRNS). Usage of "PDCP Data" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of lossless SRNS Relocation - YES/NO

Support of PS – Yes/No

IXIT: Test_PDCP_TCP/IP_Packet1

IXIT: Test_PDCP_TCP/IP_Packet2

Test procedure

a) The SS setups a packet switched session including Radio Bearer and UE test loop mode 1 in RLC AM and in-sequence delivery using Common test procedures for mobile terminated PS switched sessions in Cell A. Usage of "PDCP Data" PDU, support of lossless SRNS relocation and no IP header compression has been configured by higher layers. The PDCP SN window size has been negotiated by RRC.

b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

e) The SS starts to broadcast BCCH messages on the primary CPICH in cell B with a power level higher than in cell A. The UE shall chose cell B to be more suitable for service and hence perform a cell reselection.

f) After completion of cell reselection, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH of cell B with the Cell update cause "Cell Reselection".

g) After having performed SRNS relocation (target RNC allocated with new S-RNTI for the UE), the Target SRNS is the valid SRNS and the SS sends a "CELL UPDATE CONFIRM" message with new RNC_ID to indicate the completion of the cell update.

h) The UE shall confirm the reallocation.

i) The SS sends the next TCP/IP data packet (no compression packet type), PID=0 using the "PDCP Data" PDU to the UE.

j) After having received the TCP/IP data packet, the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

k) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.

l) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1) in Cell A				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression. The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3				The SS increases the RF power level of cell B and decreases the power level of Cell A such that the UE finds cell B more suitable for service.
4				The UE cell reselection is performed and Cell B are selected for service.
5	→		RRC CELL UPDATE	Then, the UE shall inform the SS about the new cell selection by sending cell update with new parameters (parameter values as used in RRC testing).

Step	Direction UE | SS	Message	Comments
6	←	RRC CELL UPDATE CONFIRM	After having performed SRNS relocation, the Target SRNS is the valid SRNS and the SS sends a "CELL UPDATE CONFIRM" message with new parameter "RNC_ID" to indicate the completion of SRNS relocation (parameters as used in RRC testing).
7	→	RNTI REALLOCATION COMPLETE	The UE confirms the newly received information (parameters as used in RRC testing).
8	←	PDCP Data	The SS sends the next PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet

After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression)

Therefore, no IP header decompression shall be applied for this packet.

The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.

The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity. |
| 9 | → | PDCP Data | The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet

After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID. |
| | | Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1) | |

Specific Message Contents

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble " Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	20
- PDCP info - Max PDCP SN window size	65535
- Support of lossless SRNS relocation	TRUE
- PDCP PDU header	present
- RLC info - Downlink RLC mode	(AM RLC)
- In-sequence delivery	True

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

Content of PDCP Data PDU (Step 8)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes1500 bytes.

7.3.3.1.5 Test requirements

After having sent the "RRC RNTI REALLOCATION COMPLETE", the UE shall return the received TCP/IP data packets as indication, that it supports lossless SRNS relocation. This implicitly verifies, that Sequence Numbering is used for lossless SRNS relocation.

7.3.3.2　Synchronisation of PDCP sequence numbers

7.3.3.2.1　Definition and applicability

Applicable for all UEs supporting RLC AM, RLC in-sequence delivery, a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore it shall be capable to use IP Header compression protocol RFC 2507.

7.3.3.2.2　Conformance requirement

The PDCP SeqNum PDU shall be sent by the peer PDCP entities when synchronisation of the PDCP SN is required. (...) Synchronisation of PDCP SN is required after (...) RB reconfiguration.

Reference(s)

TS 25.323 clause 5.4

7.3.3.2.3　Test purpose

1. To verify, that the UE supporting lossless SRNS relocation as configured by higher layers is able to handle the "PDCP SeqNum" PDU to synchronize the used PDCP Sequence Number after reconfiguration of the Radio Bearer.

7.3.3.2.4　Method of test

Initial conditions

SS: 2 cells - Cell A belonging to the valid SRNS (Source SRNS), Cell B belonging to the DRNS (Target SRNS). Both cells are neighbour cells. Cell A has a higher RF power level than Cell B such that an UE shall find Cell A more suitable for service.

UE: It is in Idle mode and has selected cell A with valid SRNS (Source SRNS). Usage of "PDCP Data" PDU, "PDCP SeqNum" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of lossless SRNS relocation - YES/NO

Support of RLC in-sequence delivery - YES/NO

Test procedure

a) The SS setups a packet switched session including Radio Bearer and UE test loop mode 1 in RLC AM and in-sequence delivery using Common test procedures for mobile terminated PS switched sessions in Cell A. Usage of "PDCP Data" PDU, support of lossless SRNS relocation and no IP header compression has been configured by higher layers. The PDCP SN window size has been negotiated by RRC.

b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.

c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

e) The SS reconfigures (using RRC Radio Bearer Reconfiguration message) the PDCP entity by extending the PID value allocation table and therefore the applied optimisation method with the IP header compression protocol RFC 2507. The UE test loop mode 1 in RLC AM is still active.

f) The SS sends the next TCP/IP data packet (no compression packet type), PID=0 using the "PDCP SeqNum" PDU including the current PDCP Sequence Number value to the UE.

g) After having received the TCP/IP data packet, the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

h) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.

i) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1) in Cell A				
1	←		PDCP Data	The SS creates a TCP/IP packet without IP header compression. The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→		PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	←		RRC RADIO BEARER RECONFIGURATION	SS extends the "PID value allocation table" with IP header compression PID (RFC 2507) in the UE.
4	→		RRC RADIO BEARER RECONFIGURATION COMPLETE	UE acknowledges its new settings

Step	Direction UE | SS	Message	Comments
5	←	PDCP SeqNum	The SS sends a PDCP SeqNum PDU including its current Sequence Number with the following content to the UE: PDU type = 001 (PDCP SeqNum PDU) PID = 0 (normal packet type [TCP/IP]) SeqNum = current PDCP Sequence Number data: below described TCP/IP packet
			After having received the PDCP SeqNum PDU, the UE shall set the received PDCP Sequence Number as its own valid value. It decodes the PDU, recognizes PID value = 0 applied for this TCP/IP data packet and shall decompress it with the appropriate method.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
6	→	PDCP PDU	The UE sends a PDCP PDU with PDCP Header back to the SS. The content is as follows: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 SeqNum: current UE value, (optional parameter, depending on the used PDU) data: previously received TCP/IP packet.
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
		Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)	

Specific Message Contents

RRC RADIO BEARER RECONFIGURATION message

The contents of the **RRC RADIO BEARER RECONFIGURATION** message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	1
RB information to reconfigure	
- PDCP info	
- Max PDCP SN window size	65535
- Support of lossless SRNS relocation	TRUE
- PDCP PDU header	present
- Header compression information	1
CHOICE *algorithm type*	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	~~reordering expected~~reordering not expected (Default)

RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup - RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC Residual BER as described in TS 24.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	20
- PDCP info - Max PDCP SN window size	65535
- Support of lossless SRNS relocation	TRUE
- PDCP PDU header	present
- RLC info - Downlink RLC mode	(AM RLC)
- In-sequence delivery	True

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

Content of PDCP SeqNum PDU (Step 5)

Information Element	Value/remark
PDU type PID Sequence number Data	001 00000 (No header compression, PID = 0) (16 Bit value) valid Sequence Number of the SS PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to ~~5 Kbytes~~1500 bytes.

7.3.3.2.5   Test requirements

After having received the TCP/IP data packet conveyed with the "PDCP SeqNum" PDU, the UE shall return the TCP/IP data packets as indication, that the UE is able to handle a Sequence Number synchronisation.

CR-Form-v6.1

CHANGE REQUEST

| ⌘ | **TS 34.123-1** | **CR** | **134** | ⌘ **rev** | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

Spec Title: User Equipment (UE) conformance specification; ⌘

Part 1: Protocol conformance specification

*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:	⌘	Corrections to default message content for FDD
Source:	⌘	MCI
Work item code: ⌘	TEI	***Date:*** ⌘ 18th February 2002

Category:	⌘	**F**	***Release:*** ⌘ REL-4

Use <u>one</u> of the following categories:
F (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 <u>one</u> 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:*** | ⌘ | If the gain factors are to be calculated, it is not needed to be included in the message.

Revision 1 corrections are highlighted in green:

For radio bearers mapped to RACH, "Explicit list" is the only valid choice for RLC size list.

Revision 2 corrections are highlighted in blue. |
|---|---|---|

| ***Summary of change:*** | ⌘ | IEs "Gain Factor" in IE "Power offset information" are set to not present when computed gain factor is used instead of when signalled gain factor is used. If IE "CHOICE Gain Factors" is set to "signalled gain factor", IE "Gain factor ßc" shall be set to '11' if the data rate is less than 64 kbps and set to '9' if the data rate is more than 64 kbps. IE "Gain factor •d" shall be set to '15' if IE "CHOICE Gain Factors" is set to "signalled gain factor".

Conditions for which the IEs are applicable is revised in RADIO BEARER SETUP message.

Downlink and uplink transport information elements are added to RADIO BEARER RECONFIGURATION message and TRANSPORT CHANNEL RECONFIGURATION, in the case where UE transit from CELL_FACH to CELL_DCH.

IE "CHOICE RLC size list" for radio bearer mapped to RACH is changed to "Explicit list" in RRC CONNECTION SETUP message: UM (Transition to CELL_FACH) and in RADIO BEARER SETUP message: AM or UM (condition A5 and A6).

The value of IE "CHOICE SF" is set to refer to TS34.108 clause 6.10 Parameter Set |
|---|---|---|

		instead of using 'otherwise'.	
		Value of IE "Primary scrambling code" is set to refer to clause 6.1.	

Consequences if not approved:	⌘	UE will be tested under wrong condition.	

Clauses affected:	⌘	Annex A

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

Other comments:	⌘	Affects both R'99 and R'4 UE test cases.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

Annex A (normative):
Default RRC Message Contents

A.1 Default RRC Message Contents (FDD)

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: 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	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
Downlink counter synchronisation info	Not Present
Maximum allowed UL TX power	33dBm
Radio link addition information	Not Present
Radio link removal information	Not Present
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Uplink counter synchronisation info	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	Refer to test requirement

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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
AM_RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM_RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	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
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC State indicator	CELL_FACH
UTRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE
CN information info	Not Present
URA identity	0000 0000 0001B
RB information to release list	Not Present
RB information to reconfigure list	Not Present
RB information to be affected list	Not Present
Downlink counter synchronisation info	Not Present
UL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE Mode	FDD
- CPCH set ID	Not Present
- Added or Reconfigured TrCH information for DRAC list	Not Present
DL Transport channel information common for all transport channels	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement Identity	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	Not Present
CHOICE Measurement type	Intra-frequency measurement
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN number	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Different from the Default setting in TS34.108 clause 6.1 (FDD)~~150~~
- Primary CPICH Tx power	Not Present
- 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 reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored cells on used frequency
- Maximum number of reported cells	2
- Measurement validity	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	See the test content

Contents of MEASUREMENT REPORT message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Not present
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Different from the Default setting in TS34.108 clause 6.1 (FDD)~~150~~
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the TEST 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 list	
- Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the TEST USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
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

Information Element	Condition	Value/remark
Message Type	A1, A2, A3, A4, A5, A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3, A4, A5, A6	Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
Frequency info		
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE *channel requirement*	A1, A2, A3, A4	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	A1, A2, A3, A4, A5, A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1, A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P$_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Condition	Value/remark
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Initialise
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P_{Pilot-DPDCH}		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information for each radio links	A1, A2,A3,A4	
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- 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
- Power offset P_{Pilot-DPDCH}		0
- Secondary CPICH info		Not Present
- DL channelisation code		
- Secondary scrambling code		5
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- SCCPCH Information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34.108

Information Element	Condition	Value/remark
		clause 6.1 (FDD)~~150~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- SCCPCH Information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement

Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A4, A5, A6,A7,A8	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info		The 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.
- Ciphering mode command		Start/restart
- Ciphering algorithm		Use one of the supported ciphering algorithms
- Ciphering activation time for DPCH		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A4,A7,A8	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A4, A5, A6,A7,A8	Not Present
CN information info		Not Present
URA identity		Not Present
Signalling RB information to setup		Not Present
RAB information for setup	A1,A7	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present

Information Element	Condition	Value/remark
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A8	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RB identity		11
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		2
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured

Information Element	Condition	Value/remark
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		7
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RB identity		12
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		8
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A4, A5, A6	
- RAB info		(AM DTCH for PS domain)
- RAB identity		0000 0101B
- CN domain identity		PS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		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
- Timer_RST		500
- Max_RST		4
- Polling info		
- Timer_poll_prohibit		200
- Timer_poll		200
- Poll_SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU 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 PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		2 RBMuxOptions
- RLC logical channel mapping indicator		Not Present

Information Element	Condition	Value/remark
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		RACH
- UL Transport channel identity		Not Present
- Logical channel identity		7
- CHOICE RLC size list		Explicit listConfigured
- MAC logical channel priority		6
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH
- DL DCH Transport channel identity		Not Present
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RB information to be affected	A1, A4, A5, A6,A7,A8	Not Present
Downlink counter synchronisation info	A1, A4, A5, A6,A7,A8	Not Present
UL Transport channel information for all transport channels	A1,A4,A7, A8	
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure information		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10 Parameter Set
- CTFC		Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to Signalled Gain Factors)
- Gain factor •c		11 (below 64 kbps) 9 (higher than 64 kbps) TBD (Not Present if the CHOICE Gain Factors is set to ComputedSignalled Gain Factors)
- Gain factor •d		TBD15 (Not Present if the CHOICE Gain Factors is set to ComputedSignalled Gain Factors)
- Reference TFC ID		0
- CHOICE mode		FDD
- Power offset P p-m		Not Present
UL Transport channel information for all transport channels	A5, A6	Not Present
- PRACH TFCS		
- CHOICE mode		

Information Element	Condition	Value/remark
- TFC subset		
- UL DCH TFCS		
Deleted UL TrCH information	A1, A4, A5, A6,A7,A8	Not Present
Added or Reconfigured UL TrCH information	A1	
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		2
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE mode		FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
Added or Reconfigured UL TrCH information	A5, A6	Not Present
CHOICE *mode*	A1, A4, A5, A6,A7,A8	FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
DL Transport channel information common for all transport channel	A1,A7,A8	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		SameasUL
DL Transport channel information common for all transport channel	A4	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		Explicit
- DL DCH TFCS		
- CHOICE TFCI Signalling		Normal
- TFCI Field 1 Information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from clause TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and

Information Element	Condition	Value/remark
- CTFC		reference to TS34.108 clause 6.10 Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		Not Present
DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - CHOICE DL parameters	A5, A6	Not Present
Deleted DL TrCH information	A1, A4, A5, A6,A7,A8	Not Present
Added or Reconfigured DL TrCH information - Downlink transport channel type - DL Transport channel identity - CHOICE DL parameters - Uplink transport channel type - UL TrCH identity - DCH quality target - BLER Quality value - Transparent mode signalling info	A1	 DCH 6 Same as UL DCH 1 -6.3 Not Present

Added or Reconfigured DL TrCH information
 - Downlink transport channel type
 - DL Transport channel identity
 - CHOICE DL parameters
 - Uplink transport channel type
 - UL TrCH identity
 - DCH quality target
  - BLER Quality value
 - Transparent mode signalling info
 - Downlink transport channel type
 - DL Transport channel identity
 - CHOICE DL parameters
 - TFS
  - CHOICE Transport channel type
  - Dynamic transport format information
  - RLC Size
 	
  - Number of TBs and TTI List
  - Dynamic transport format information
  - Transmission Time Interval
  - Number of Transport blocks
 	
 - 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
	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
		DCH
		10
		Same as UL
		DCH
		5
		
		Not Present
		Not Present
		DCH
		6
		Explicit
		
		Dedicated transport channel
		
		Reference to TS34.108 clause 6.10 Parameter Set
		(This IE is repeated for TFI number.)
		
		Not Present
		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
		
		-6.3
		Not Present

Added or Reconfigured DL TrCH information - Downlink transport channel type - DL Transport channel identity - CHOICE DL parameters - Uplink transport channel type - UL TrCH identity - DCH quality target - BLER Quality value - Transparent mode signalling info	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH) DCH 10 Same as UL DCH 5 Not Present Not Present

Information Element	Condition	Value/remark
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		7
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		8
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Condition	Value/remark
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		Not Present
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A5, A6	Not Present
Frequency info	A1, A4, A5, A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1, A4, A5, A6, A7, A8	33dBm
CHOICE channel requirement	A1, A4, A7, A8	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE channel requirement	A5,A6	Not Present
CHOICE Mode	A1, A4, A5, A6,A7,A8	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1, A4,A7,A8	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P$_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- CHOICE mode		FDD
- DPCH compressed mode info		Not Present
- TX Diversity mode		None

Information Element	Condition	Value/remark
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A5,A6	Not Present
Downlink information for each radio link list	A1,A4,A7, A8	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)100
- PDSCH with SHO DCH info		Not Present
- 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
- DL channelisation code		
- Secondary scrambling code		1
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A5	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A6	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34.108 clause 6.1 (FDD)150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech from CELL_DCH to CELL_DCH in CS"
A2 is defined in TS34.108 clause 9.	This IE need for "Speech from CELL_DCH to CELL_DCH in CS"
A3 is defined in TS34.108 clause 9.	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"
A7	This IE need for "Non speech from CELL_FACH to CELL_DCH in CS"
A8	This IE need for "Speech from CELL_FACH to CELL_DCH in CS"

Contents of RADIO BEARER SETUP FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER SETUP message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1,A2,A3, A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3, A4,A5,A6	Not Present
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)

Information Element	Condition	Value/remark
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A2	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		11
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
		(This IE is needed for 12.2 kbps and 10.2

Information Element	Condition	Value/remark
- RB identity		kbps) 12
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A3,A4,A5, A6	TS25.331 specifies that "Although this IE is not always required, need is MP to align with ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DTCH)
- RB identity		20
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to be affected	A1, A2, A3,A4,A5, A6	Not Present
UL Transport channel information for all transport channels	A1, A2, A3, A4, A5,A6	Not Present
UL Transport channel information for all transport channels	A3, A4	
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure information		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
- CTFC		Set Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to Signalled Gain Factors)
- Gain factor •c		11 (below 64 kbps) 9 (higher than 64 kbps) (Not Present if the CHOICE Gain Factors is set to ComputedGain Factors)
- Gain factor •d		15 (Not Present if the CHOICE Gain Factors is set to ComputedGain Factors)
- Reference TFC ID		0
- CHOICE mode		FDD
- Power offset P p-m		Not Present
Deleted UL TrCH information	A1, A2, A3, A4, A5,A6	Not Present
Added or Reconfigured UL TrCH information	A1, A2, ~~A3, A4,~~ A5,A6	Not Present
Added or Reconfigured UL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set (This IE is repeated for TFI number.)
- Number of TBs and TTI List		Not Present
- Transmission Time Interval		Reference to TS34.108 clause 6.10 Parameter Set
- Number of Transport blocks		All
- CHOICE Logical Channel list		
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set (This IE is repeated for TFI number.)
- Number of TBs and TTI List		Not Present
- Transmission Time Interval		Reference to TS34.108 clause 6.10 Parameter Set
- Number of Transport blocks		All
- CHOICE Logical Channel list		
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Condition	Value/remark
Added or Reconfigured UL TrCH information	A3	(DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE mode	A1,A2,A3, A4,A5,A6	FDD
- CPCH set ID		Not Present
- Added or Reconfigured TrCH information for DRAC list		Not Present
DL Transport channel information common for all transport channel	A1, A2, ~~A3, A4~~,A5, A6	Not Present
DL Transport channel information common for all transport channel	A3,A4	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		Explicit
- DL DCH TFCS		
- CHOICE TFCI Signalling		Normal
- TFCI Field 1 Information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from clause TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10
- CTFC		Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		Not Present
Deleted DL TrCH information	A1, A2, A3, A4, A5,A6	Not Present
Added or Reconfigured DL TrCH information	A1, A2,~~ A3, A4~~,A5, A6	Not Present
Added or Reconfigured DL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel

Information Element	Condition	Value/remark
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A3	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
Frequency info	A1,A2,A3, A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3, A4,A5,A6	33dBm
CHOICE channel requirement	A1, A2, A3, A4	Uplink DPCH info
-Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
- Scrambling code type		Long
- Scrambling code number		0 (0 to 16777215)

Information Element	Condition	Value/remark
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE channel requirement	A5, A6	Not Present
CHOICE Mode	A1,A2,A3, A4,A5,A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1, A2, A3, ~~A4~~	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P_{Pilot-DPDCH}		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Initialise
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P_{Pilot-DPDCH}		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information per radio link list	A1, A2, A3, A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		

Information Element	Condition	Value/remark
- 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		2
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH Information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34.108 clause 6.1 (FDD)~~150~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- Secondary CCPCH info		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

.

Contents of RADIO BEARER RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded List	Not checked

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM

Information Element		Value/remark
Message Type	A1,A2,A3,A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1,A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3,A4,A5,A6	Not Present
CN information info		Not Present
Signalling Connection release indication		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to release - RB identity	A1,A2	 10
RB information to release - RB identity	A2	 11
RB information to release - RB identity	A2	 12
RB information to release - RB identity	A3, A4, A5, A6	 20
RB information to be affected	A1,A2, A3,A4,A5, A6	Not Present
Downlink counter synchronisation info	A1,A2,A3,A4,A5,A6	Not Present
UL Transport channel information for all transport channels	A1,A2, A3, A4,A5, A6	Not Present

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A1,A2, A3, A4	
		DCH
		1

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A2	
		DCH
		2

Deleted UL TrCH Information
   - Uplink transport channel type
   - Transport channel identity
	A2	
		DCH
		3

Deleted UL TrCH Information	A5,A6	Not Present
Added or Reconfigured UL TrCH information	A1,A2, A3,A4 A5, A6	Not Present

Deleted DL TrCH Information
   - Downlink transport channel type
   - Transport channel identity
	A1,A2, A3,A4	
		DCH
		6

Deleted DL TrCH Information
   - Downlink transport channel type
   - Transport channel identity
	A2	
		DCH
		7

Deleted DL TrCH Information
   - Downlink transport channel type
   - Transport channel identity
	A2	
		DCH
		8

Deleted DL TrCH Information	A5,A6	Not Present
Added or Reconfigured DL TrCH information	A1,A2, A3, A4,A5, A6	Not Present

Information Element		Value/remark
Frequency info	A1,A2,A3,A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE channel requirement	A1,A2,A3,A4	Uplink DPCH info
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- 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		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	A1,A2,A3,A4,A5,A6	FDD
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1,A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset $P_{Pilot-DPDCH}$		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter Set~~Otherwise~~
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1,A2,A3,A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- 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		3
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set

Information Element		Value/remark
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34.108 clause 6.1 (FDD)~~150~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RELEASE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RELEASE message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Initial UE identity	Select the same type as in the IE "Initial UE Identity" in RRC CONNECTION REQUEST" message.
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	Select the same identity as in the IE "Initial UE Identity" in received RRC CONNECTION REQUEST" message
RRC transaction identifier	0
Activation time	Not Present (Now)
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
RRC state indicator	CELL_FACH
UTRAN DRX cycle length coefficient	9
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	Timer based no explicit
- Timer discard	50
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	1
- CHOICE RLC size list	Configured

Information Element	Value/remark
- MAC logical channel priority	1
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	1
- CHOICE RLC size list	~~Configured~~Explicit list
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	2
- CHOICE RLC size list	Configured
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	2
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	2
- CHOICE RLC size list	Explicit list~~Configured~~

Information Element	Value/remark
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	3
- CHOICE RLC size list	Configured
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	3
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL DCH Transport channel identity	Not Present
- Logical channel identity	3
- CHOICE RLC size list	Explicit listConfigured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- 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

Information Element	Value/remark
- 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 PDU poll	TRUE
- Last retransmission PDU 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 PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	4
- CHOICE RLC size list	Configured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	4
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	4
- CHOICE RLC size list	Explicit list Configured
- MAC logical channel priority	5
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	4
UL Transport channel information for all transport channels	Not Present
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1"
- Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- TFS	
- CHOICE Transport channel type	Delicated transport channels
- Dynamic Transport format information	
- RLC Size	Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Value/remark
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter 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	Not Present(Refer to SIB type 5)
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1"
- Added or Reconfigured DL TrCH information	
- Downlink transport channel type	DCH
- DL Transport channel identity	10
- CHOICE DL parameters	Same as UL
- Uplink Transport channel type	DCH
- UL TrCH identity	5
- DCH quality target	Not Present
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink (Nu)	Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)	Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE channel requirement	Not Present
Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
- Downlink information for each radio link	
- Choice mode	FDD
- Primary CPICH info	
- Primary scrambling code	Ref. to the Default setting in TS34.108 clause 6.1 (FDD)100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not present
- SCCPCH information for FACH	Not Present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Identification of received message	Not Checked
Protocol error information	
- Protocol error cause	Refer to test requirement.

Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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	Refer to test requirement.

Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3, A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT statements in 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
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
RRC State indicator	A1, A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3, A4,A5,A6	Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport channels	A1, A2, ~~A3,A4,~~ A5, A6	Not Present

Information Element	Condition	Value/remark
UL Transport channel information for all transport channels	A3, A4	
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure information		
- CHOICE CTFC Size		Number of bits used must be enough to cover all combinations of CTFC from TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10 Parameter Set
- CTFC		Reference to TS34.108 clause 6.10 Parameter Set
- Power offset information		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to Signalled Gain Factors)
- Gain factor •c		11 (below 64 kbps) 9 (higher than 64 kbps) (Not Present if the CHOICE Gain Factors is set to ComputedGain Factors)
- Gain factor •d		15 (Not Present if the CHOICE Gain Factors is set to ComputedGain Factors)
- Reference TFC ID		0
- CHOICE mode		FDD
- Power offset P $_{p-m}$		Not Present
Added or Reconfigured UL TrCH information	A1, A2, ~~A3, A4,~~A5, A6	Not Present

Information Element	Condition	Value/remark
Added or Reconfigured UL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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	A3	(DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Condition	Value/remark
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE *mode* - CPCH set ID - Added or Reconfigured TrCH information for DRAC list	A1,A2,A3, A4,A5,A6	FDD Not Present Not Present
DL Transport channel information common for all transport channel	A1, A2, ~~A3, A4~~, A5,A6	Not Present

DL Transport channel information common for all transport channel
    - SCCPCH TFCS
    - CHOICE mode
    - CHOICE DL parameters
    - DL DCH TFCS
     - CHOICE TFCI Signalling
      - TFCI Field 1 Information
      - CHOICE TFCS representation
      - TFCS complete reconfigure
      - CHOICE CTFC Size
 	
      - CTFC information
 	
      - CTFC
 	
      - Power offset information
	A3,A4	
		Not Present
		FDD
		Explicit
		
		Normal
		
		Complete reconfiguration
		
		Number of bits used must be enough to cover all combinations of CTFC from clause TS34.108 clause 6.10 Parameter Set.
		This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10
		Reference to TS34.108 clause 6.10 Parameter Set
		Not Present

Added or Reconfigured DL TrCH information	A1, A2, ~~A3, A4,~~A5, A6	Not Present

Information Element	Condition	Value/remark
Added or Reconfigured DL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A3	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter 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		-6.3
- Transparent mode signalling info		Not Present
Frequency info	A1,A2,A3, A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies

Information Element	Condition	Value/remark
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3, A4,A5,A6	33dBm
CHOICE *channel requirement*	A5, A6	Not Present
CHOICE channel requirement -Uplink DPCH power control info - DPCCH power offset - PC Preamble - SRB delay - 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	A1, A2, A3, A4	Uplink DPCH info -6dB 1 frame 7 frames Algorithm1 1dB Long 0 (0 to 16777215) Not Present(1) 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
CHOICE Mode - Downlink PDSCH information	A1,A2,A3, A4,A5,A6	FDD Not Present
Downlink information common for all radio links	A5, A6	Not Present

Downlink information common for all radio links
 	
 - Downlink DPCH info common for all RL
  - Timing indicator
  - CFN-targetSFN frame offset
  - Downlink DPCH power control information
  - DPC mode
 - CHOICE mode
  - Power offset P$_{Pilot-DPDCH}$
  - DL rate matching restriction information
  - Spreading factor
 	
  - Fixed or Flexible Position
 	
  - TFCI existence
 	
  - CHOICE SF
 	
 - DPCH compressed mode info
 - TX Diversity mode
 - SSDT information
 - Default DPCH Offset Value
	A1, A2, A3, ~~A4~~	
		
		Maintain
		Not Present
		
		0 (single)
		FDD
		0
		Not Present
		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~~Otherwise~~
		Not Present
		None
		Not Present
		Not Present

Downlink information common for all radio links
  - Downlink DPCH info common for all RL
  - Timing indicator
  - CFN-targetSFN frame offset
  - Downlink DPCH power control information
  - DPC mode
  - CHOICE mode
  - Power offset P$_{Pilot-DPDCH}$
  - DL rate matching restriction information
  - Spreading factor
 	
  - Fixed or Flexible Position
 	
  - TFCI existence
 	
  - CHOICE SF
 	
 - DPCH compressed mode info
	A4	
		
		Initialise
		Not Present
		
		0 (single)
		FDD
		0
		Not Present
		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~~Otherwise~~
		Not Present

Information Element	Condition	Value/remark
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1, A2, A3, A4	
- Downlink information for each radio links		
- CHOICE mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- 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
- Power offset $P_{Pilot-DPDCH}$		0
- Secondary CPICH info		Not Present
- DL channelisation code		
- Secondary scrambling code		4
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause 6.1 (FDD)~~100~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34.108 clause 6.1 (FDD)~~150~~
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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	Checked to see if it meets test requirement

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

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
CHOICE mode	FDD
DPCH/PUSCH TFCS in Uplink	
- CHOICE *Subset representation*	Allowed transport format combination list
- Allowed Transport format combination	0 (The TFC is constructed from ALL TF0)
Activation time for TFC subset	Not Present
TFC Control duration	Not Present

Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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

Contents of UE CAPABILITY INFORMATION message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Integrity check info	The presence of this IE is dependent on IXIT statements in 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 FDD	
- RF Capability TDD	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE radio access capability extension	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
UE system specific capability	Not Checked

Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

Contents of URA 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
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

3GPP TSG- T1 Meeting #14
Sophia Antipolis, France, 21st –22nd February 2002

T1-020040

3GPP TSG- T1 SIG Meeting #21
Sophia Antipolis, France, 18th-20th February 2002

T1S-010373r7

CR-Form-v6.1

CHANGE REQUEST

⌘ **TS 34.123-1 CR 133** ⌘**rev** **-** ⌘ Current version: **4.1.0** ⌘

Spec Title: User Equipment (UE) conformance specification; ⌘

Part 1: Protocol conformance specification

*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:	⌘	R'4 Corrections to RRC test prose clause 8.2 and 8.3
Source:	⌘	MCI, Rohde & Schwarz, Ericsson
Work item code: ⌘	TEI	***Date:*** ⌘ 19th February 2002
Category:	⌘ **F**	***Release:*** ⌘ REL-4

Use one of the following categories:
    F *(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:	⌘	There are many technical errors found in the test proses.

Summary of change: ⌘ Test requirements in clause 8.2 and 8.3 are updated to reflect more accurately the requirement of the UE.

References in many test cases are corrected.

Grammatical corrections.

Clarifications are made to improve the readability of the test proses.

Updating of the IEs according to June version TS 25.331.

In all multi-cells tables, all entries labeled CPICH RSCP are revised to CPICH Ec since these tables specify the DL TX power configured by SS, instead of the Rx power received by UE. The value of this parameter when the cell is not suitable for camping is –75dBm and the value is –60 dBm when the cell is suitable for camping.

All post amble test steps are removed.

Specific message content are clarified to ensure all IEs are clearly indicated. References of the specific message are also clarified.

Contents in the SIB type 5 used in the test cases found in clause 8.2 (except 8.2.1) and 8.3 have been update according to those found in TS 34.108.

In clause 8.2 (except 8.2.1) and 8.3, all reception of invalid RRC message test cases are

revised to use short message to generate the invalid message.

In clause 8.2 (except 8.2.1), the applicability of many test cases is revised.

In many test cases in clause 8.2 (except 8.2.1), references of default messages are updated.

In clause 8.2.2.2, IE "UARFCN uplink (Nu)" in the unsupported configuration message is set to '0' and IE "UARFCN downlink (Nd)" is set to 950. In clause 8.2.2.11, 8.2.3.2, 8.2.3.10, 8.2.4.2, 8.2.4.11, 8.2.6.2 and 8.2.6.10, the same correction can be found. This may not be the best solution but at least the test condition will not misled readers.

In clause 8.2.2.4 and 8.2.3.4, the content of CELL UPDATE CONFIRM messge in step 4 is revised so that the UE returns to its initial state.

In clause 8.2 (except 8.2.1), all invalid configuration messages from SS to UE shall use the following setting:

Default DPCH Offset Value   512
DPCH frame offset   1024

Except for TRANSPORT FORMAT COMBINATION CONTROL message in clause 8.2.5.4. In this case, the transport channel type is set to conflict with the identity.

In clause 8.2.2.5, 8.2.2.14, 8.2.3.5, 8.2.3.13, 8.2.4.5, 8.2.4.14, 8.2.6.5 and 8.2.6.13, IE "Scrambling code number" is added to the RBC messages in step 1 and 2 but the values for both messages are different. In clause 8.2.6.5 and 8.2.6.13, this IE is added to step 4 and 5.

In subsequently received test cases, IE "Scrambling code number" is added to the two same RBC messages subsequently sent from SS but the values for both messages are different. These changes apply to clause 8.2.1.17, 8.2.1.18, 8.2.2.19, 8.2.2.20, 8.2.3.16, 8.2.3.17, 8.2.4.18, 8.2.4.19, 8.2.6.17 and 8.2.6.18.

IE "Primary scrambling code" is added to RADIO BEARER RECONFIGURATION message in step 1 of clause 8.2.2.21, 8.2.2.22, 8.2.2.23, and 8.2.2.24. Same modification can be found in RADIO BEARER RELEASE message in step 1 of clause 8.2.3.18 and 8.2.3.19. Same modification can be found in TRANSPORT CHANNEL RECONFIGURATION message in step 1 of clause 8.2.4.20 and 8.2.4.21. Same modification can be found in PHYSICAL CHANNEL RECONFIGURATION message in step 1 of clause 8.2.6.19 and 8.2.6.20

Previously, 2 cells are required in hard handover test cases. This CR proposes that the hard handover be done with a change in UL scrambling code instead of radio frequency. In this way only 1 cell is required. All hard handover test cases are revised according to this proposal except for clause 8.2.6.15.

In clause 8.2.2.7, RB identity '3' is specified as the RB to continue using. Also a step to stop the RB 3 is added. To check that RB 3 is enabled or disabled, SS send IDENTITY REQUEST message to UE and UE will send back IDENTITY RESPONSE message back to SS only if IE "RB stop/continue" is set to "continue" and will not send back IDENTITY RESPONSE message if IE "RB stop/continue" is set to "stop".

In clause 8.2.2.16 has been removed. In practice, such reconfiguration of the UE is not needed.

In clause 8.2.2.17 and 8.2.4.16, the test case has been modified to test that the UE transit from CELL_FACH in the current cell to CELL_FACH in another cell. No change to the test step but the test condition and message content are changed.

In clause 8.2.3.5 and 8.2.3.13, RADIO BEARER SETUP message in step 1 is replaced by RADIO BEARER RECONFIGURATION message. In clause 8.2.2.14, RADIO BEARER SETUP message in step 1 is replaced by PHYSICAL CHANNEL RECONFIGURATION message. This will remove the need to trigger NAS procedure.

In clause 8.2.5.1, the value in IE "DPCH/PUSCH TFCS uplink" in TRANSPORT

FORMAT COMBINATION CONTROL message is set to "Restricted TrCH information". Also SS send UE CAPABILITY ENQUIRY message to UE is added to step 2a. This is to check that UE does not send back STATUS PDU to SS.

In clause 8.2.5.2, the value in IE "DPCH/PUSCH TFCS uplink" in TRANSPORT FORMAT COMBINATION CONTROL message is set to "Full transport format combination set". Also SS send TRANSPORT FORMAT COMBINATION CONTROL message to UE to remove the restriction impose by the first message is added. Then SS sends UE CAPABILITY ENQUIRY message to UE is also added. This is to check that UE send back STATUS PDU to SS after the second TRANSPORT FORMAT COMBINATION CONTROL message.

Clause 8.2.5.3 is removed, as this test requirement is not the core specification.

During the test, PHYSICAL CHANNEL RECONFIGURATION message is sent to the UE to move the UE from CELL_FACH to CELL_DCH, but DCH TrCH info is not included in this message. Therefore the initial condition is changed to CELL_DCH so that the UE could have the necessary information to do the transition from CELL_FACH to CELL_DCH later in the test. Then to start the test in CELL_FACH, a step to move the UE from CELL_DCH to CELL_FACH using PHYSICAL CHANNEL RECONFIGURATION message is added. The UE shall then send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. These changes apply to clause 8.2.6.9, 8.2.6.10, 8.2.6.11, 8.2.6.12, 8.2.6.13, 8.2.6.14 and 8.2.6.18.

In clause 8.2.6.15, instead of hard handover to another frequency, it is changed to hard handover to another cell. Therefore 2 cells are used instead of 1 in this modification.

In cell re-select test cases (clause 8.2.2.9, 8.2.3.8, 8.2.4.9, 8.2.6.8), the tests are modified to use only 1 cell. The RBC messages shall include IE "Primary CPICH info" which is set to the value of cell 2. Since cell 2 is not available, the UE shall re-select to cell 1 and then send a CELL UPDATE message with IE "Cell update cause" set to "cell reselection".

In test cases where UE fails to revert back to old configuration (clause 8.2.2.13, 8.2.3.12, 8.2.4.13 and 8.2.6.12), the cell update cause should be "radio link failure".

In cell-reselect test cases (clause 8.2.2.9, 8.2.2.18, 8.2.3.8, 8.2.4.9, 8.2.4.17, 8.2.6.8, 8.2.6.16), the CELL UPDATE CONFIRM messages are revised to exclude IE "New U-RNTI" and IE "New C-RNTI" so that UE shall not need to send back UTRAN MOBILITY INFORMATION message back to SS.

In clause 8.3.1.1, the message content for CELL UPDATE CONFIRM message use in step 8 and k=3 has been modified so that it is much simpler. IE "RB information to be reconfigure" is used instead and the IE "RB stop/continue" is set to 'stop' for RB 20.

In clause 8.3.1.2, test steps to confirm that the UE responds with the correct message after receiving CELL UPDATE CONFIRM message have been removed because these tests are available in clause 8.3.1.1. Test steps are added to check that the UE enters CELL_PCH after it receives CELL UPDATE CONFIRM message and also to check that UE is capable of performing multiple cell update due to different causes.

In clause 8.3.1.3 and 8.3.1.4, UE in CELL_FACH state cannot read SIB type 1. To change the value of T305, SS can transmit UTRAN MOBILITY INFORMATION message and specify the new value of T305. However, the UE will only use the new value when it restarts the timer. A way of ensuring that the UE restarts T305 if the make the UE transit to CELL_PCH and then back to CELL_FACH. Additional steps are added to ensure that the UE do so.

In clause 8.3.1.5, the MEASUREMENT CONTROL message is revised so that the UE sends MEASUREMENT REPORT message periodically. Step 9 to 16 is removed because it is unnecessary to test the UE for the same purpose again.

In clause 8.3.1.6, the MEASUREMENT CONTROL message is added so that the UE sends MEASUREMENT REPORT message periodically. RADIO BEARER RELEASE message is added to make the UE transit to CELL_PCH state. Step 5a, 5b and 6 are

removed, as these test steps are no longer needed.

Table 8.3.1.9, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.1.9. SIB Type 3 and 4 has been modified so that the S value of the cell could be easily control by the SS. The same changes are applied to clause 8.3.1.10. Furthermore, in clause 8.3.1.10, step 6 to 17 are removed, as these test steps are no longer needed.

In clause 8.3.1.13 and 8.3.1.20, test step 6 to 11 are removed because the test purpose is similar to clause 8.3.1.12.

In clause 8.3.1.17, test step 3 and 4 are removed because these step are unnecessary.

Table 8.3.1.18, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.1.18. Test steps are added to provide the UE with new T315 value. Test steps to test that UE performs cell reselection and transmits CELL UPDATE message after it fails to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message, has also been added.

Table 8.3.2.3, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.2.3. SIB Type 3 and 4 has been modified so that the S value of the cell could be easily control by the SS. The same changes are applied to clause 8.3.2.4. Furthermore, in clause 8.3.2.3, step 8 to 11 are removed, as these test steps are no longer needed.

In clause 8.3.2.7, it is not necessary for the UE to perform a maximum of N302 re-transmission as this requirement has already been tested in clause 8.3.2.6. Therefore the test step has been simplified. Due to the same reason, clause 8.3.2.8 is removed.

In clause 8.3.2.10, testing of UE behaviour when it receives an invalid URA UPDATE CONFIRM message is removed as this has already been tested in clause 8.3.2.2.

In clause 8.3.3.1, test step 7 to 9 are added to ensure that the UE uses the newly assigned T305.

In clause 8.3.3.2, test steps to check the behaviour of UE when cell reselection occurs before UE transmit UTRAN MOBILITY INFORMATION CONFIRM message to SS are removed because it is too difficult for the SS to create the testing condition.

Table 8.3.4.1, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.4.1. Step 2 is added to check that UE send MEASUREMENT REPORT message to indicate that the power level of the P-CPICH in cell 2 has risen to the reporting range. Steps are added to check that the UE responds through the right cell. Similar changes can be found in clause 8.3.4.2 and 8.3.4.3. Furthermore, in clause 8.3.4.2, test steps are also added to added radio link so that the UE has radio link to remove in the later part of the test without losing RRC connection.

Table 8.3.4.4, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.4.4. Step 2 is added to check that UE send MEASUREMENT REPORT message to indicate that the power level of the P-CPICH in cell 2 has risen to the reporting range. The same changes applies to clause 8.3.4.7.

Test conformance requirement of clause 8.3.4.5 has been changed. The new test conformance tests the UE behaviour when UE receives ACTIVE SET UPDATE message in the wrong state.

Changes in revision 4 are highlighted in green. They are mainly editorial corrections.

CPICH_Ec should have the unit of dBm/3.84MHz.

Clause 8.2.4.1a is added to include the case where UTRAN ask UE to perform HHO due to the change in data transmission rate.

		Changes in revision 5 are highlighted in yellow.
		Clarify in clause 8.3.1.13 that CELL UPDATE CONFIRM message should be sent on the downlink DCCH using UM RLC.
		Changes in revision 7 are highlighted in blue.
		(from Ericsson)
		8.2.2.7: Clarification of conformance requirement, test procedure and test requirement according to the test purpose to verify that the UE transmit/not transmit data on the radio bearer after having received a continue/stop command.
		8.2.2.8.4, 8.2.3.7.4, 8.2.4.7.4, 8.2.6.7.4, 8.2.6.15.4
		Added value to New C-RNTI in RADIO BEARER SETUP message as otherwise the specified sequence would be wrong. When the UE enters CELL_FACH and does not have a C-RNTI it shall perform a CELL_UPDATE (TS 25.331 8.2.2.3). However, by supplying a C-RNTI in the configuration message and a scrambling code for the cell, the CELL_UPDATE is not performed by the UE.
Consequences if not approved:	⌘	The test prose cannot test UE correctly.

Clauses affected:	⌘	

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

Other comments:	⌘	Affects Rel'99 and Rel'4 UE test cases.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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~~UL scrambling code and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. ~~After executing the reconfiguration, the UE shall be able to communicate with the UTRAN on the newly 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~~ the radio bearers ~~by following~~according to a RADIO BEARER RECONFIGURATION message, which indicates a hard handover to another UL scrambling code~~radio frequency~~.

8.2.2.1.4   Method of test

Initial Condition

System Simulator: ~~2~~1 cell~~s Cell 1 is active, Cell 6 is inactive~~.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108~~.~~, depending on the CN domain(s) supported by the UE~~in cell 1~~.

Test Procedure

Table 8.2.2.1

Parameter	Unit	~~Cell 1~~		~~Cell 6~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 2~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.2.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.~~

The UE is in ~~the~~ CELL_DCH state ~~in cell 1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.1 and broadcast BCCH on the primary CCPCH in cell 6.~~ The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which commands ~~that~~a hard handover in the same cell to a new UL scrambling code to ~~cell 6~~be performed. The UE reconfigures the new physical channel ~~parameters~~and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			~~Void~~	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.1.~~
2			~~BCCH~~Void	~~The SS starts to broadcast BCCH on the primary CCPCH in cell 6.~~
3	←		RADIO BEARER RECONFIGURATION	~~Hard handover to cell 6,~~UL scrambling code is modified.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	~~The UE shall stop all uplink transmissions to cell 1 and shall commence the reconfiguration of the affected physical channel parameters to that of cell 6.~~
~~5~~	→		~~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 as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found~~"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~~
Uplink DPCH Info	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	~~Initialise~~Maintain

8.2.2.1.5 Test requirement

After step ~~4~~3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the ~~DCCH using AM RLC.After step 5 the UE shall change its physical channel configuration and communicate with the SS on the DCCH and DTCH using the dedicated physical channel in cell 6~~new DPCH after the specified activation time has expired.

8.2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported 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 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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 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 as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	63984.0 Not Present950

RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.2.2.5   Test requirement

After step 2 1 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 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 message~~before timer T312 expires. ~~and~~ UE shall 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 expires according to the RADIO BEARER RECONFIGURATION message before timer T312~~received previously~~.

8.2.2.3.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

~~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 including the new radio bearer parameters to the UE but it keeps its current dedicated physical channel configuration~~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 configuration.

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 as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A.

~~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

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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 a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.4.3   Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message after it completes a cell update 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 1 cells.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

UE: PS-DCCH+DTCH_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 a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters, to the UE. After transmitting the reception of the acknowledgement for the RADIO BEARER RECONFIGURATION message in SS, the SS shall not reconfigure dedicated physical channel L1 in accordance to with the settings in the message and release the previous configuration. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "-physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGURATION message and shall ~~not use~~release the old configuration.
3	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4		←	~~CELL UPDATE CONFIRM~~	~~This message include IE "Physical channel information elements".~~ The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
5		←	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".~~The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.~~
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RECONFIGURATION message (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as as found in Annex A

~~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.~~

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

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'~~
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 45)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
~~U-RNTI~~	~~Same as CELL UPDATE message in step 3~~
~~Frequency info~~	
~~- UARFCN uplink(Nu)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~- UARFCN downlink(Nd)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~Maximum allowed UL TX power~~	~~33dBm~~
~~CHOICE Mode~~	~~FDD~~
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RADIO_BEARER_SETUP message used to move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~
~~- PDSCH with SHO DCH info~~	~~Not Present~~
~~- 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~~
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	~~2~~
~~- 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~~
~~- SCCPCH information for FACH~~	~~Not Present~~

RADIO BEARER RECONFIGURATION FAILURE (Step 7)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.2.4.5   Test requirement

After step 2 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "-physical channel failure".

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 receives a RADIO BEARER RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION message, it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC.

~~If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

8.2.2.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

~~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. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGURATION message, the UE shall keep ~~the~~ its current configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS ~~receives~~ acknowledges the RADIO BEARER RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	~~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~~ its configuration ~~because of receiving~~according to the RADIO BEARER RECONFIGURATION message in step 2~~.~~.
4	→		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Non speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with 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]
Uplink DPCH Info	
- Scrambling code number	1

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 "Speech in CS" or "Non speech in CS " or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with following exceptions:

Information Element	Value/remark
Activation Time	Not Present.
Uplink DPCH Info	
- Scrambling code number	2

RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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 1 The SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.~~

After step 2, the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER RECONFIGURATION message and shall~~ transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 43, the UE ~~communicates with the Ss~~shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH ~~and DTCH using the new physical channel parameters configured as a result of the RADIO BEARER SETUP message~~using AM RLC.

8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.2.6.1 Definition

8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which does not includes ~~the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" having criticality defined as "Reject"~~any IEs except IE "Message Type". The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE " failure cause" and is set to "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause".

The UE shall keep existing configuration ~~before~~ upon reception of a RADIO BEARER RECONFIGURATION message, which ~~when the RADIO BEARER RECONFIGURATION message~~ includes some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message including IE "failure cause" set to "invalid configuration".

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 an invalid RADIO BEARER RECONFIGURATION message ~~containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject"~~which does not include any IEs except IE "Message Type".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration.

8.2.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which ~~includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" which criticality is defined as "Reject"~~does not include any IEs except IE "Message Type". 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 "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause". The UE keeps ~~initial~~ current configuration ~~and~~ after SS transmits a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration. Then UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "~~ ~~invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	See specific message content.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
3		←	RADIO BEARER RECONFIGURATION	This message includes IE set to give an invalid ~~value~~configuration.
4	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
~~5~~	~~→~~		~~RADIO BEARER RECONFIGRATION FAILURE~~	~~The IE "failure cause" shall be set to "invalid configuration~~

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

~~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,~~ with the following exceptions:

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value.~~Not Present

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

RADIO BEARER RECONFIGURATION (Step 3)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as <u>"Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions~~,~~ <u>:</u> ~~with the following exceptions~~

Information Element	Value/remark
<u>- Default DPCH Offset Value</u>	<u>512</u>
<u>- DPCH frame offset</u>	<u>1024</u>
~~Added or Reconfigured UL TrCH information~~	
~~- Uplink transport channel type~~	~~DCH~~
~~- UL Transport channel identity~~	~~1~~
~~- TFS~~	
~~- Dynamic Transport format information~~	~~(This IE is repeated for TFI number)~~
~~- RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- CHOICE Logical Channel list~~	~~Explicit List~~
~~- RB identity~~	~~2~~
~~- LogicalChannel~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~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 " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration~~

After step 4 3 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.7   Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Continue and stop)

8.2.2.7.1   Definition

8.2.2.7.2   Conformance requirement

If the IE "RB information to reconfigure" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

   - …

   - if the IE "RB stop/continue" is included; and

      - if the "RB identity" has a value greater than 2; and

         - if the value of the IE "RB stop/continue" is "stop":

            - configure the RLC entity for the radio bearer to stop;

            - set the IE "RB started" in the variable ESTABLISHED_RABS to "stopped" for that radio bearer;

         - if the value of the IE "RB stop/continue" is "continue":

            - configure the RLC entity for the radio bearer to continue;

            - set the IE "RB started" in the variable ESTABLISHED_RABS to "started" for that radio bearer;

~~The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.~~

Reference

3GPP TS 25.331 clause 8.2.2, 8.6.4.5.

8.2.2.7.3   Test purpose

To confirm that the UE reconfigures new radio bearer and ~~have~~ stop the transmission and reception of the RLC entity belonging to the RB identity specified ~~the uplink transmission according to a~~ in the RADIO BEARER RECONFIGURATION message ~~which indicates that uplink transmission is continued~~.

To confirm that the UE reconfigures new radio bearer and <u>restart the transmission and reception of the RLC entity belonging to the RB identity specified in the</u>~~don't transmit data according to a~~ RADIO BEARER RECONFIGURATION message ~~which indicates that uplink transmission is stopped~~.

8.2.2.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH (state 6-9) or</u> PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108<u>, depending on the CN domain(s) supported by the UE</u>.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message including IE <u>"</u>-RB stop/continue" set to "continue" <u>for radio bearer with RB identity '3'</u>. The UE reconfigures new radio bearer and transmit<u>s a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The<u>n, the SS transmits an IDENTITY REQUEST message using AM RLC, the</u> UE <u>responds a IDENTITY RESPONSE message. The SS transmits a RADIO BEARER RECONFIGURATION message including IE "RB stop/continue" set to "stop" for radio bearer with RB identity "3". The UE reconfigures new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. Then, the SS transmits a IDENTITY REQUEST message using AM RLC, the UE does not acknowledge this message and also does not respond with a IDENTITY RESPONSE message.</u>~~communicate with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmit a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE don't transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.~~

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	RADIO BEARER RECONFIGURATION	This message include IE <u>"</u>-RB stop/continue-" <u>set to "continue"</u>.
2	→		RADIO BEARER RECONFIGURATION COMPLETE	
3		←	<u>IDENTITY REQUEST</u>	~~The SS Shall communicate with the UE.~~
<u>3a</u>	<u>→</u>		<u>IDENTITY RESPONSE</u>	
4		←	RADIO BEARER RECONFIGURATION	This message include IE <u>"</u>-RB stop/continue-" <u>set to "stop"</u>.
5	→		RADIO BEARER RECONFIGURATION COMPLETE	
6		←	<u>IDENTITY REQUEST</u>	~~The SS shall not receive any data from the UE without Signalling message.~~
<u>7</u>	<u>→</u>			<u>The SS shall not receive any data from the UE.</u>

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as <u>"Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	~~20~~3
-RB stop/continue	"continue"

RADIO BEARER RECONFIGURATION (Step 4)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	~~20~~3
-RB stop/continue	"stop"

8.2.2.7.5 Test requirement

After step ~~2~~ 3 the UE shall <u>respond with a IDENTITY RESPONSE message</u>~~communicate with the SS using new configuration~~.

After step ~~5~~ 6 the UE shall <u>not respond with a IDENTITY RESPONSE message</u> <mark>on the stopped RB</mark>~~communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message~~.

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<u>s</u> according to a RADIO BEARER RECONFIGURATION message<u>,</u> which ~~is communicate with the UTRAN on the new radio bearer in case of~~<u>invoke</u> a transition from CELL_DCH to CELL_FACH in the same cell <u>and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC</u>.

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 <u>UE receives a</u> 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_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 <u>invoke a transition from CELL_DCH to CELL_FACH</u> ~~includes the new radio bearer parameters and sets up L1~~

~~including the start of tx/rx~~. The UE reconfigures the ~~new~~ radio bearer<u>s</u> and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE select<u>s</u> PRACH and S-CCPCH ~~using~~ indicated in SIB5 and SIB6 after entering CELL FACH state.
~~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 <mark>with the following exception:</mark>

<mark>Information Element</mark>	<mark>Value/remark</mark>
New C-RNTI	0000 0000 0000 0001B

8.2.2.8.5   Test requirement

~~After step 1 the UE shall reconfigure the radio links with the SS.~~

After step ~~3~~ <u>1</u> the UE shall <u>transmit a RADIO BEARER RECONFIGURATION message</u>~~change its radio bearer configuration and communicate with the SS on the DCCH and DTCH, using the common physical channel~~.

8.2.2.9   Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.2.9.1   Definition

8.2.2.9.2   Conformance requirement

The UE shall initiate cell update procedure when the UE performs cell reselection during radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.9.3   Test purpose

To confirm that the UE transmits RADIO BEARER ~~RECONFIGURE~~ RECONFIGURATION COMPLETE message ~~in cell2~~ after it completes a cell update procedure.

8.2.2.9.4   Method of test

Initial Condition

System Simulator: ~~2~~ <u>1</u> cell~~s – Cell 1 is active and cell 2 is inactive~~.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.9

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.2.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.9 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The SS transmits a RADIO BEARER RECONFIGURATION message, which includes IE"Primary CPICH info" and no dedicated physical channel information to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, the UE shall initial the cell update procedure. to the UE as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits a RADIO BEARER RECONFIGURE RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.9.
2	←		BCCHVoid	The SS transmit the BCCH on the primary CCPCH in the cell2.
3	←		RADIO BEARER RECONFIGURATION	Assign a transition from CELL_DCH to CELL_FACH.This message include IE" Primary CPICH info"
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	→		UTRAN MOBILITY INFORMATION CONFIRMVoid	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 3)

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:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	" Cell reselection radio link failure"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message isare identical same as "CELL UPDATE CONFIRM message" as found in Annex A. with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.2.9.5 Test requirement

After step 3, the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 65, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC , setting IE "failure cause" to "cell reselection".

After step 7 the UE communicate with the SS on the DCCH and DTCH in cell2, using the common physical channel.

8.2.2.10 Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.10.1 Definition

8.2.2.10.2 Conformance requirement

The UE shall correctly reconfigure a radio bearers according to a RADIO BEARER RECONFIGURATION message, which is communicate with the UTRAN on the new radio bearer in case of invoke a transition from CELL_FACH to CELL_DCH in the same cell and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.10.3   Test purpose

To confirm that the UE ~~establishes a new~~reconfigures the radio bearer~~s~~ ~~by following~~according to a RADIO BEARER RECONFIGURATION message ~~received from the SS~~.

8.2.2.10.4   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 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 bearers 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 from CELL_FACH in PS" in Annex A.

8.2.2.10.5   Test requirement

After step 2 the UE shall ~~change its radio bearer configuration and~~ transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC ~~communicate with the SS on the DCCH and DTCH which are being carried by the DPCH physical channel resources~~.

8.2.2.11   Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.11.1   Definition

8.2.2.11.2   Conformance requirement

The UE shall keep its ~~old~~ current 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 unsupported" 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 transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message received includes unsupported configuration parameters.

8.2.2.1511.4   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, to the UE which includes unsupported configuration parameters, to the UE of the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration 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 as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark

Frequency info
  - UARFCN uplink (Nu)
  - UARFCN downlink (Nd)
	
	~~63984~~0
	~~Not Present~~950

RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Configuration unsupported
~~Other information element~~	~~Not checked~~

8.2.2.11.5   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 unsupported" in IE " failure cause".

8.2.2.12 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old configuration)

8.2.2.12.1 Definition

8.2.2.12.2 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 message~~<u>before timer T312 expires</u> and detects the same serving cell only. ~~and~~ <u>The UE shall</u> 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.

8.2.2.12.3 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 <u>before timer T312 expires</u> according to a RADIO BEARER RECONFIGURATION message.

8.2.2.12.4 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 ~~to the UE~~, which includes the new radio bearer parameters<u>, to the UE</u> and <u>keep its current physical channel channel configuration</u>~~does not reconfigure L1~~. Therefore, the UE cannot reconfigure the ~~new~~ radio bearer<u>s</u> and shall attempt <u>cell reselection procedure after T312 expires</u>~~to revert to the old configuration~~. Then the UE shall <u>detect the same serving cell only and</u> 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		→	RADIO BEARER RECONFIGURATION FAILURE	<u>The SS does not reconfigures L1 and the UE fails to reconfigure its radio bearers.</u>~~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

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Physical channel failure
~~Other information element~~	~~Not checked~~

8.2.2.12.5 Test requirement

After step ~~2~~ 1 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".

8.2.2.13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause" ~~to "physical channel failure"~~.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.13.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message after it completes a cell update procedure due to a physical channel failure in the radio bearer reconfiguration procedure.

8.2.2.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 ~~is~~ and 2 are active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.2.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	dBm /3.84 MHz	~~-73~~60	~~-79~~75	~~switched off~~ -75	~~-73~~60

Table 8.2.2.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~ between columns "T0" ~~to~~ and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

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, to the UE but SS does not reconfigure dedicated physical channel ~~L1~~ in accordance with the ~~such as catered to the new radio bearer~~ settings in the message. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.13 ~~and begins to broadcast the BCCH on the primary CCPCH in a cell 2~~. The~~n the~~ UE recognize that it cannot synchronize with the SS on the new radio bearers. ~~finds a new cell 2~~ The UE performs cell reselection and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmit~~ a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGRATION message and applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.13 ~~delete the old configuration.~~
3			<u>Void</u>	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.13.~~
4		←	~~BCCH~~<u>Void</u>	~~The SS starts to transmit the BCCH in cell 2 on the primary CCPCH.~~
5	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6		←	CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI"".~~
7	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~<u>Void</u>	
8	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

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.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 9~~6~~)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

RADIO BEARER RECONFIGURATION FAILURE (Step 9~~8~~)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.2.13.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 8 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 7 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.2.14 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.14.1 Definition

8.2.2.14.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION message, it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC.

~~If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

8.2.2.14.3   Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.2.14.4   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_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ message expires. When the UE receives the RADIO BEARER RECONFIGUTARION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO RECONFIGURATION SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS ~~receives~~ acknowledges the RADIO BEARER ~~SETUP~~ RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION~~RADIO BEARER SETUP~~	~~Including IE "Uplink DPCH info"~~
2	←		RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous message.
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change ~~the~~ its configuration ~~because of receiving~~ according to the RADIO BEARER RECONFIGURATION message.
4	→		PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ COMPLETE	This message is on DCCH using AM RLC

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ (Step 1)

For PHYSICAL CHANNEL RECONFIGURATION ~~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 with the following exceptions.

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH Info	
- Scrambling code number	1

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 with the following exceptions:

Information Element	Value/remark
Activation Time	~~Current CFN-[current CFN mod 8 + 8]~~Not Present
Uplink DPCH Info	
- Scrambling code number	2

RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~
Failure cause	Incompatible simultaneous reconfiguration
~~Other information element~~	~~Not checked~~

8.2.2.14.5 Test requirement

~~After step 1, SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.~~

After step 2 the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall~~ transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 3 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

~~After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.~~

8.2.2.15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid 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 an invalid RADIO BEARER RECONFIGURATION message, which does not includes ~~undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject"~~any IEs except IE "Message Type". Then it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message setting "protocol error" in IE "failure cause" and also setting " ASN.1 violation error or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep its current ~~existing~~ configuration ~~before~~ upon reception of a RADIO BEARER RECONFIGURATION message, ~~when the RADIO BEARER RECONFIGURATION message~~which includes some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 it receives an invalid RADIO BEARER RECONFIGURATION message which does not includes~~undefined value in the mandatory IE "UTRAN DRX cycle length coefficient", with criticality defined as "Reject"~~any IEs except IE "Message Type".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration.

8.2.2.15.4   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 an invalid RADIO BEARER RECONFIGURATION message to the UE which does not includes all IEs except IE "Message Type"~~undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. 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 " ASN.1 violation error or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". The UE keeps ~~initial~~ current configuration when SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration. The UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	See specific message content.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
3	←		RADIO BEARER RECONFIGURATION	This message includes IE set to invalid value
4	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration
~~5~~	~~→~~		~~RADIO BEARER RECONFIGRATION FAILURE~~	~~The IE "failure cause" shall be set to "invalid configuration~~

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

~~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 with the following exceptions:~~

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value.~~Not Present

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation error or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

RADIO BEARER RECONFIGURATION (Step 3)

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 with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Added or Reconfigured UL TrCH information~~	
~~- Uplink transport channel type~~	~~DCH~~
~~- UL Transport channel identity~~	~~2~~
~~- TFS~~	
~~- Dynamic Transport format information~~	~~(This IE is repeated for TFI number)~~
~~- RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- CHOICE Logical Channel list~~	~~Explicit List~~
~~- RB identity~~	~~2~~
~~- LogicalChannel~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

RADIO BEARER RECONFIGURATION FAILURE (Step ~~5~~4)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~Other information element~~	~~Not checked~~

8.2.2.15.5   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, which ~~contain~~ includes the cause "protocol error" in IE "failure cause" and "ASN.1 violation error or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step 4 3 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.16   ~~Radio Bearer Reconfiguration from CELL_FACH to CELL_ FACH: Success (Continue and Stop)~~Void

~~8.2.2.16.1   Definition~~

~~8.2.2.16.2   Conformance requirement~~

~~The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.~~

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.16.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.16.4 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 to the UE, which includes IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicates with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmits a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE shall not transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The message includes IE "RB stop/continue" for one of the signalling radio bearer.
2				The UE select PRACH and S-CCPCH, using SIB5 or SIB6.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	
4				The SS Shall communicate with the UE.
5	←		RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
6				The UE select PRACH and S-CCPCH, using SIB5 or SIB6.
7	→		RADIO BEARER RECONFIGURATION COMPLETE	
8				The SS shall not receive any data from the UE without Signalling message.

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 with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
-RB information to reconfigure	
--RB identity	3
--RB stop/continue	Set to "continue"

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

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 with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
-RB information to reconfigure	
--RB identity	3
--RB stop/continue	Set to "stop"

8.2.2.16.5   Test requirement

After step 3 the UE shall communicate with the SS using new configuration.

After step 7 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

8.2.2.17   Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success

8.2.2.17.1   Definition

8.2.2.17.2   Conformance requirement

The UE shall correctly reconfigure a radio bearers and transit from CELL_FACH in the current cell to CELL_FACH in another cell 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 celland responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.17.3   Test purpose

To confirm that the UE establishes a new radio bearers by followingaccording to a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.17.4   Method of test

Initial Condition

System Simulator: 12 cells – Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.2.17

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

Table 8.2.2.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message, which invoke a transition from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE ~~which includes the new transport channel parameter reconfigure for transit~~. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.17. The UE moves to cell 2 and configures the common physical channel ~~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		←	RADIO BEARER RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.17. ~~The UE select PRACH and S-CCPCH using SIB5 or SIB6.~~
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step ~~2~~1)

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 code	150

8.2.2.17.5   Test requirement

After step ~~3~~ 2 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC in cell 2 ~~change its radio bearer configuration and be in CELL_FACH~~

~~After step 4 the UE shall communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

8.2.2.18   Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.2.18.1   Definition

8.2.2.18.2   Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during radio bearer reconfiguration ~~establishment~~ procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.18.3   Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message in cell 2 after it completes a cell update procedure instigated by a RADIO BEARER RECONFIGURATION message.

8.2.2.18.4   Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 ~~is~~ and 2 are active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.18

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	dBm/ 3.84 MHz	-7~~3~~60	-7~~9~~75	~~switched off~~ 75	-7~~3~~60

Table 8.2.2.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~ between columns "T0" ~~to~~ and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in cell 1. On transmitting a RADIO BEARER RECONFIGURATION message to the UE, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.18 ~~and begins to broadcast the BCCH on the primary CCPCH in a cell 2~~. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit~~ a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC~~, setting the value " cell reselection" to IE "failure cause"~~.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	~~This message include IE "Primary CPICH info"~~
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.9.
3	←		~~BCCH~~Void	~~The SS transmit the BCCH on the primary CCPCH in the cell 2.~~
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		RADIO BEARER RECONFIGURATION COMPLETE	~~The IE "failure cause" shall be set to "cell reselection"~~

Specific Message Contents

RADIO BEARER RECONFIGURATION ~~SETUP~~ (Step 1)

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 code
	~~150~~Not Present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
~~U-RNTI~~	
~~- SRNC Identity~~	~~Assigned previously in cell 1~~
~~- S-RNTI~~	~~Assigned previously in cell 1~~
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is ~~identical~~ <u>same</u> as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 7~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

8.2.18.5   Test requirement

After step ~~3~~ <u>2</u> the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "cell update cause" set to "cell reselection".

~~After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 UE shall transmit~~s~~ a RADIO BEARER ~~SETUP~~ RECONFIGURATION COMPLETE message on the DCCH using AM RLC

~~After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

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 bearers 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 a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

8.2.2.19.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, it ignores the new RADIO BEARER RECONFIGURATION message and configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message received.

~~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: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

~~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 a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The IE "Secondary scrambling code" is set to "1". ~~Including IE "Uplink DPCH info"~~
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2	←		RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed. The IE "Secondary scrambling code" is set to "2".
3	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and ~~confirms~~ performs 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 "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info - Secondary scrambling code	1

RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info ~~DL channelisation code~~ - Secondary scrambling code	2

8.2.2.19.5   Test requirement

After step ~~3~~ 2 the UE shall ~~communicate with the SS on the radio bearer specified in the~~ transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC ~~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 a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

8.2.2.20.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, it ignores the new RADIO BEARER RECONFIGURATION message and configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message received. ~~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: 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 the radio bearers according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	RADIO BEARER RECONFIGURATION	The IE "Secondary scrambling code" is set to "1". ~~Including IE "Uplink DPCH info"~~
~~1a~~			~~The SS set its Downlink DPCH scrambling code to "1".~~	
2		←	RADIO BEARER RECONFIGURATION	SS sends this message before the expiry of activation time specified in RADIO BEARER ~~SETUP~~ RECONFIGURATION message of step 1. The IE "Secondary scrambling code" is set to "2".
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_DCH from CELL_FACH in PS" as 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
- Uplink DPCH Info	
- Secondary scrambling code	1

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH InfoDL channelisation code	
- Secondary scrambling code	2

8.2.2.20.5 Test requirement

After step 3 2 the UE shall communicate with the SS on the radio bearer specified in thetransmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLCin step 1.

8.2.2.21 Radio Bearer Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.2.21.1 Definition

8.2.2.21.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_DCH state to CELL_PCH state according to the received RADIO BEARER RECONFIGURATION message.

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.

8.2.2.21.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message and enters before entering CELL_PCH state after it received receives a RADIO BEARER RECONFIGURATION, which invoke the UE to transit from CELL_DCH to CELL_PCH, from SS message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.21.4 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 a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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				The UE is in CELL_PCH state. ~~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
RRC State Indicator	CELL_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.2.21.5 Test requirement

After step 1 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response"transit from CELL_DCH to CELL_PCH.

8.2.2.22 Radio Bearer Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.2.22.1 Definition

8.2.2.22.2 Conformance requirement

The UE shall transmit configure radio bearers so as to transit from CELL_DCH state to URA_PCH state according to received 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.

8.2.2.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE and enters before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to URA_PCH, from SS.and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.2.22.4 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 URACELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits a 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 andshall enters the CELL_FACH state after receiving this message. UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "paging response".

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				The UE is in URA_PCH state.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
RRC State Indicator	URA_PCH

Downlink information for each radio link
  - Primary CPICH info
    - Primary scrambling code
	
	100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark

Paging record list
Paging record
  - CHOICE Used paging identity
    - U-RNTI
     - SRNC Identity
     - S-RNTI
	
	UTRAN identity
	
	Previously assigned SRNC identity
	Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.2.22.5   Test requirement

After step 1 the UE shall transmit~~s~~ a RADIO BEARER RECONFIGURATION COMPLETE message ~~to the UE~~ on uplink DCCH using AM RLC.

After step 3 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response" ~~transits from CELL_DCH to URA_PCH~~.

8.2.2.23   Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.2.23.1   Definition

8.2.2.23.2   Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_FACH state to CELL_PCH state according to the received RADIO BEARER RECONFIGURATION message and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

~~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.

8.2.2.23.3   Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message and enters ~~before entering~~ CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message~~,~~, which invoke the UE to transit from CELL_FACH to CELL_PCH~~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 a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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				The UE is in CELL_PCH state.~~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
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
- Primary scrambling code	100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.2.23.5 Test requirement

After step 1 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response" transit from CELL_DCH to CELL_PCH.

8.2.2.24 Radio Bearer Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.2.24.1 Definition

8.2.2.24.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_FACH state to URA_PCH state according to the received RADIO BEARER RECONFIGURATION message and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

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.

8.2.2.24.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message and enters before entering URA_PCH state after it received receives a RADIO BEARER RECONFIGURATION message, which invoke the UE to transit from CELL_FACH to URA_PCH and reconfigured its radio bearers. The UE is in URA_PCH state in the same cell.

8.2.2.24.4 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 a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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				The UE is in URA_PCH state. ~~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
RRC State Indicator	URA_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.2.24.5   Test requirement

After step 1 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".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 and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.1.3   Test purpose

To confirm that the UE releases 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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE releases the radio access 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	→		RADIO BEARER RELEASE COMPLETE	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~~ 2 the UE shall <u>transmit a RADIO BEARER RELEASE COMPLETE message</u>~~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 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 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: CS-DCCH+DTCH_DCH (state 6-9) <u>or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108<u>, depending on the CN domain(s) supported by the UE</u>.

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 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~~ RELEASE 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" <u>or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as</u> found in Annex A with the following exceptions:

Information Element	Value/remark

Frequency info
   - UARFCN uplink (Nu)
   - UARFCN downlink (Nd)
	
	~~63984~~0
	~~Not Present~~950

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Configuration unsupported
~~Other information element~~	~~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 "failure cause" set to "configuration 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 reconfigure the ~~new~~ radio bearers 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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message but it keeps its current dedicated physical channel configuration~~does not configure L1 correspondingly~~. This causes the UE to fail to release the radio bearer, and after T312 ~~expiry~~ expires 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 keeps its current dedicated physical channel configuration~~does not configure L1 to reflect the release of the indicated bearer~~.
3	→		RADIO BEARER RELEASE FAILURE	After T312 ~~expiry~~expires, 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" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in annex A.

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

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 a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.4.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message after it completes a cell update 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: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 ., depending on the CN domain(s) supported by the UEin cell 1.

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a RADIO BEARER RELAESE RELEASE message to the UE but does not configure dedicated physical channel L1 in accordance with the settings in the message and release the previous configuration. As a result, the UE recognizes that it cannot reconfigure the radio bearers and wants to revert to the old configuration, but the UE cannot revert to the old configuration. because the SS shall not revert to old configuration and tThe UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				The SS does not configure the dedicated physical channel in accordance with The the RADIO BEARER RELEASE message and shall not userelease the old configuration.
3	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	This message includes IE "Physical channel information elements".
5				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case are identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in default message content clause 9 of TS 34.108Annex A.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition
~~Frequency info~~	
~~- UARFCN uplink(Nu)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~- UARFCN downlink(Nd)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~Maximum allowed UL TX power~~	~~33dBm~~
~~CHOICE Mode~~	~~FDD~~
~~Downlink information for each radio links~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~
~~- PDSCH with SHO DCH info~~	~~Not Present~~
~~- 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~~
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	~~2~~
~~- 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~~
~~- SCCPCH information for FACH~~	~~Not Present~~

RADIO BEARER RELEASE FAILURE (Step 7)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RELEASE FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.3.4.5   Test requirement

After step 2 the UE shall a transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall a transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 9 6 the UE shall a transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a RADIO BEARER RELEASE message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE message, it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC.

~~If the UE receives a RADIO BEARER RELAESE message whilst reconfiguring due to a radio bearer message other than RADIO RELEASE SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

8.2.3.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.3.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION ~~SETUP~~ message to the UE. The SS transmits a RADIO BEARER RELEASE ~~SETUP~~ message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION ~~SETUP~~ message expires. When the UE receives the RADIO BEARER RELEASE ~~SETUP~~ message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". ~~After the SS receives the RADIO BEARER RELEASE FAILURE message~~ When the activation time lapses, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION ~~SETUP~~ COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATIONSETUP	
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 due to the reception of RADIO BEARER RELEASE message.
4	→		RADIO BEARER RECONFIGURATION SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION SETUP (Step 1)

The contents of RADIO BEARER RECONFIGURATION SETUP RELEASE message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

Uplink DPCH info
   - Scrambling code number
Downlink information common for all radio links
   - Downlink DPCH info common for all RL
     - Timing Indicator
	
	1
	
	Maintain

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:
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 Info Uplink DPCH Info - Scrambling code number	Current CFN-[current CFN mod 8 + 8] 2

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

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 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall~~ transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 3 the UE shall trasmit a RADIO BEARER RECONFIGURATION COMPLETE message~~communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message~~.

8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.6.1 Definition

8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which does not includes ~~undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~any IEs except IE "Message Type". It shall transmit a RADIO BEARER RELEASE FAILURE message which ~~contains~~includes value "protocol error" in IE " failure cause" and value " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE " Protocol error cause". The UE shall keep existing configuration ~~before~~upon reception of a RADIO BEARER RELEASE message, which ~~when the RADIO BEARER RELEASE message~~include some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

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 an invalid RADIO BEARER RELEASE message, which does not include any IEs except IE "Message Type"~~uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~.

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 including some IEs set to give an invalid ~~value~~configuration.

8.2.3.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits an invalid RADIO BEARER RELEASE message to the UE which does not any IEs except IE "Message Type"~~includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. 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 " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". ~~The UE keeps initial configuration and~~ SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid ~~value~~configuration. The UE keeps current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	RADIO BEARER RELEASE	See specific message content.
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.
3		←	RADIO BEARER RELEASE	This message includes IE set to give an invalid ~~value~~configuration
4				The UE does not change the configuration
5	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step1)

~~The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:~~

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value~~Not Present

RADIO BEARER RELEASE FAILURE (Step 2)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

RADIO BEARER RELEASE (Step 3)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS"" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Added or Reconfigured UL TrCH information~~	
~~ - Uplink transport channel type~~	~~DCH~~
~~ - UL Transport channel identity~~	~~1~~
~~ - TFS~~	
~~ - Dynamic Transport format information~~	~~(This IE is repeated for TFI number)~~
~~ - RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~ - CHOICE Logical Channel list~~	~~Explicit List~~
~~ - RB identity~~	~~2~~
~~ - LogicalChannel~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

RADIO BEARER RELEASE FAILURE (Step 5)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~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 "<u>ASN.1 violation or encoding error</u>~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step 4 the UE shall transmit <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure 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 <u>and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC</u>~~, 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: PS-DTCH+DCCH_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<u>s</u> the radio <u>access</u> 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				The UE selects PRACH and S-CCPCH ~~using~~ indicated in SIB5 and SIB6 after entering CELL FACH state. The UE shall release ~~radio bearers on~~ dedicated ~~transport~~ channels, and reconfigure the remaining radio bearers using the ~~selected~~ common ~~control~~ channel.
3	→		RADIO BEARER RELEASE COMPLETE	~~UE shall be able to continue communication over the remaining radio bearers using the 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 with the following exception:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

.

8.2.3.7.5 Test requirement

After step ~~3~~ 2 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message~~release the specified radio bearer(s) and cease any further uplink transmission from these radio bearer(s)~~.

8.2.3.8 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.3.8.1 Definition

8.2.3.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer release procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer release procedure and correctly release the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.8.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE ~~FAILURE~~ COMPLETE message after the UE completes a cell update procedure.

8.2.3.8.4   Method of test

Initial Condition

System Simulator: 2 1 cell~~s No.1 is active, No.2 is inactive~~.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.3.8

~~Parameter~~	~~Unit~~	~~Cell 1~~		~~Cell 2~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 1~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.3.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.~~

The UE is in ~~the~~ CELL_DCH state ~~in cell No.1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.8 and broadcast BCCH on the primary CCPCH in cell 2 .~~ The SS transmit~~s~~ a RADIO BEARER RELEASE message ~~as~~ to request the UE to ~~the~~ transition ~~from~~ CELL_DCH to CELL_FACH. The UE ~~reselects cell 2 and~~ initiates the cell update procedure because the UE cannot detect the specified cell in this message. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits~~ a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.8~~
2	←		~~BCCH~~Void	~~The SS starts to broadcast BCCH on the primary CCPCH in cell2.~~
3	←		RADIO BEARER RELEASE	Assigned the transition from CELL_DCH to CELL_FACH
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI"".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 3)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
~~U-RNTI~~	
~~- SRNC Identity~~	~~Assigned previously in cell 1~~
~~- S-RNTI~~	~~Assigned previously in cell 1~~
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is ~~identical~~ <u>same</u> as "CELL UPDATE CONFIRM message" as found in ~~annex~~ <u>Annex A.</u> ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 7~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

8.2.3.8.5   Test requirement

After step 3 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.3.9   Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.9.1   Definition

8.2.3.9.2   Conformance requirement

The UE shall correctly release ~~a~~ radio bearer<u>s</u> according to a RADIO BEARER RELEASE message <u>and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC</u>.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.9.3   Test purpose

To confirm that an UE, in state CELL_FACH, releases the radio access bearers <u>using common physical channel</u> ~~on RACH and FACH transport channels~~. After the release, it shall access the affected radio bearers on the <u>DPCH</u>~~newly allocated DCH transport channel~~.

8.2.3.9.4   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 RELEASE message to the UE. In this message, SS commands the UE to release radio access bearers on common physical channel~~RACH and FACH~~. At the same time, SS allocates DPCH to support the affected radio bearers. The UE shall release the indicated radio access bearers 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 common physical channel~~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.

8.2.3.9.5   Test requirement

After step ~~3~~ 2 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message ~~stop communicating on the released radio bearers, and resume all stopped radio bearer~~ using the dedicated physical channel allocated.

8.2.3.10   Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.10.1   Definition

8.2.3.10.2   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 unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.10.3   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 unspported by ~~parameters for~~ the UE.

8.2.3.10.4   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 ~~RELAESE~~ RELEASE 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 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~~ RELEASE 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 with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 ~~63984~~0 ~~Not Present~~950

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Configuration unsupported
~~Other information element~~	~~Not checked~~

8.2.3.10.5   Test requirement

After step ~~2~~ 1 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 unsupported" in IE "failure cause".

8.2.3.11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old configuration)

8.2.3.11.1 Definition

8.2.3.11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to <u>re</u>configure the ~~new~~ radio bearer<u>s</u> before T312 timer ~~expiry~~<u>expires and detects the same serving cell only</u>. 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" <u>after it reverts to the old configuration</u>.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.11.3 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<u>s</u> in accordance <u>with</u> the specified settings in RADIO BEARER RELEASE message ~~by~~ <u>before</u> T312 timer ~~expiry~~<u>expires</u>.

8.2.3.11.4 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 RELEASE message and <u>keeps its current physical channel configuration</u>~~does not configure L1~~. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer ~~expiry~~<u>expires</u>, 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 <u>the specified L1</u>.
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~~ <u>Annex</u> A.

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.11.5 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".

8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.3.12.1 Definition

8.2.3.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in theduring a radio bearer release procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message after it completes a cell update procedure following a physical channel failure during the radio bearer release procedure.

8.2.3.12.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell No.1.

Test Procedure

Table 8.2.3.12

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCPEc	dBm/ 3.84 MHz	-7360	-7975	switched off -75	-7960

Table 8.2.3.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~ between columns "T0" ~~to~~ and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RELAESE message to the UE, but it does not configure the specified L1 in accordance ~~to~~ with the settings in the message. 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. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.12 ~~and begins to broadcast the BCCH on the primary CCPCH in a cell 2~~. The UE shall find cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to " cell reselection ~~radio link failure~~". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits~~ RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure ~~cell reselection~~".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				The SS does not configure the specified L1 in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.12.
3		←	~~BCCH~~Void	~~The SS starts to transmit the BCCH on the primary CCPCH in cell 2.~~
4	→		CELL UPDATE	The UE finds a new cell 2 and enter CELL_FACH state. This message includes the value "cell reselection" set in IE "Cell update cause".
5		←	CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI"".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A.~~with the following exceptions:~~

Information Element	Value/remark
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

RADIO BEARER RELEASE FAILURE (Step 7)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"RADIO BEARER RELEASE FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.3.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.3.13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.13.1 Definition

8.2.3.13.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE message, it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC.

~~If the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

8.2.3.13.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than a RADIO BEARER RELEASE message, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.3.13.4   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_ <mark>DFA</mark>CH state. The SS transmits a RADIO BEARER RECONFIGURATION SETUP message to the UE. The SS transmits a RADIO BEARER RELEASE message before the "activation time" indicated in the RADIO BEARER SETUP RECONFIGURATION message expires. When the UE receives the RADIO BEARER RELEASESETUP message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATIONSETUP	The UE receives any message other than RADIO BEARER RELEASE. (e.g. RADIO BEARER SETUP)
2	←		RADIO BEARER RELEASE	Sent before the expiry stated in of IE "Activation Time" of stated in message in step 1.
3	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER RECONFIGURATION SETUP message..
4	→		RADIO BEARER RECONFIGURATION SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION SETUP (Step 1)

The contents of RADIO BEARER RECONFIGURATION 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]
Uplink DPCH Info - Scrambling code number	1

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_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	~~Current CFN-[current CFN mod 8 + 8]~~Not Present
Uplink DPCH Info	
- Scrambling code number	2

RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Incompatible simultaneous reconfiguration
~~Other information element~~	~~Not checked~~

8.2.3.13.5 Test requirement

~~After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.~~

After step 2 the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall~~ transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message ~~communicates with the SS on the DCCH and DTCH~~ using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION ~~SETUP~~ message.

8.2.3.14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.14.1 Definition

8.2.3.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which ~~uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~does not include any IEs except IE "Message Type". It shall transmit a RADIO BEARER RELEASE FAILURE message which indicate the value "protocol error" in IE "failure cause" and setting "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep existing configuration ~~before~~ upon reception of a RADIO BEARER RELEASE message, which ~~when the RADIO BEARER RELEASE message~~ includes some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.14.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message which does not include any IEs except IE "Message Type"~~uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~.

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 including some IEs set to give an invalid ~~value~~configuration.

8.2.3.14.4   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 an invalid RADIO BEARER ~~RELAESE~~ RELEASE message, which does not include any IEs except IE "Message Type", to the UE ~~containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. 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~~ value "protocol error" in IE "failure cause" and also "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause". ~~The UE keeps initial configuration and~~ SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid ~~value~~configuration. The UE keeps current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	RADIO BEARER RELEASE	See specific message content.
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.
3		←	RADIO BEARER RELEASE	This message includes IE set to give an invalid ~~value~~configuration.
4				The UE does not change ~~the~~ its configuration
5	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step ~~3~~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 with the following exceptions:~~

Information Element	Value/remark
~~UTRAN DRX Indicator~~All IEs	~~Out of range value~~Not Present

RADIO BEARER RELEASE FAILURE (Step 2)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

RADIO BEARER RELEASE (Step 3)

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 with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Added or Reconfigured UL TrCH information~~	
~~- Uplink transport channel type~~	~~DCH~~
~~- UL Transport channel identity~~	~~1~~
~~- TFS~~	
~~- Dynamic Transport format information~~	~~(This IE is repeated for TFI number)~~
~~- RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- CHOICE Logical Channel list~~	~~Explicit List~~
~~- RB identity~~	~~4~~
~~- LogicalChannel~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

RADIO BEARER RELEASE FAILURE (Step 5)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~Other information element~~	~~Not checked~~

8.2.3.14.5 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 "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step 4 3 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.3.15 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.15.1 Definition

8.2.3.15.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.15.3 Test purpose

To confirm that the UE releases the existing the radio bearer(s) according to the RADIO BEARER RELEASE message ~~received from the SS~~.

8.2.3.15.4   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 RELEASE message to the UE. The UE releases the radio access 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 selects PRACH and S-CCPCH ~~using~~ indicated in SIB5 and SIB6. 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.

8.2.3.15.5   Test requirement

After step 1 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC on the common physical channel~~cease the transmission and reception of the affected radio bearers~~.

~~After step 3 the UE shall stop communicating on radio bearers to be released.~~

8.2.3.16   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 a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

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: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

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 access bearer, the UE ignores the second RADIO BEARER RELEASE message and releases the radio bearer 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	The SS sets its UL scrambling code to "1".
1a				The SS set its Downlink DPCH scrambling code to "1".
2		←	RADIO BEARER RELEASE	Message sent before the expiry of "activation time" specified in message of in step 1. The IE "Secondary scrambling code" is set to "2".
3	→		RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release radio bearer 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 "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info - Secondary scrambling code	1

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info~~DL channelisation code~~	
- Secondary scrambling code	2

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.

8.2.3.17 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 the radio bearers according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

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 ignores 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: 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 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 access bearer, the UE ignores the second RADIO BEARER RELEASE message and releases the radio bearers according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	The SS sets its UL scrambling code to "1".
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2	←		RADIO BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of RADIO BEARER RELEASE message in step 1. The IE "Secondary scrambling code" is set to "2".
3	→		RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and ~~confirms~~ release radio bearers 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 with the following exceptions:

Information Element	Value/remark
Activation Time Info - Uplink DPCH Info - Secondary scrambling code	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH Info~~DL channelisation code~~ - Secondary scrambling code	Not Present 2

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.

8.2.3.18 Radio Bearer Release from CELL_DCH to CELL_PCH: Success

8.2.3.18.1 Definition

8.2.3.18.2 Conformance requirement

The UE shall transmit a RADIO BEARER RELEASE COMPLETE message on uplink DCCH using AM RLC before ~~completes it transition~~ transits from CELL_DCH to CELL_PCH when UE receives a RADIO BEARER RELEASE message. And then, the UE shall release radio access bearers according to the RADIO BEARER RELEASE ~~Release~~ message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.3.18.3   Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio access bearers. ~~The UE is in CELL_PCH state of the same cell.~~

8.2.3.18.4   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 a 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 causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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 it completes state transition.
3		←	PAGING TYPE 1	The SS transmits this message ~~included~~ with 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
RRC State Indicator	CELL_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.3.18.5 Test requirement

After step 1 the UE transmits a RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

8.2.3.19 Radio Bearer Release from CELL_DCH to URA_PCH: Success

8.2.3.19.1 Definition

8.2.3.19.2 Conformance requirement

The UE shall transmit a RADIO BEARER RELEASE COMPLETE message before it completes transitiontransits from CELL_DCH to CELLURA_PCH when UE receives a RADIO BEARER RELEASE message. And then, the UE shall release radio access bearers according to the RADIO BEARER RELEASE Release message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.3.19.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE COMPLETE before entering CELLURA_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.

8.2.3.19.4 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 a RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELLURA_PCH state. The SS transmits a PAGING TYPE 1 message, and the UE causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response"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 ~~it~~ completes state transition.
3	←		PAGING TYPE 1	The SS transmits this message ~~included~~ with 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
RRC State Indicator	URA_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	100

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.3.19.5   Test requirement

After step 1 the UE transmits a RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC ~~before completes state transition~~.

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response".

8.2.4 Transport channel reconfiguration

8.2.4.1 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 transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC after it correctly reconfigures a the radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover by changing the scrambling code for the DPCHto another cell. After the completion of this procedure, the UE shall be able to communicate with the SS 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 transportthe channel configuration according to a TRANSPORT CHANNEL RECONFIGURATION message, which also specifies that a hard handover to by changing the scrambling code for the DPCHanother cell be performed simultaneously.

8.2.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 2 is inactive1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE. in cell 1

Test Procedure

Table 8.2.4.1

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switched off	-73

Table 8.2.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_DCH state ~~in cell 1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.1 and broadcast BCCH on the primary CCPCH in cell 2.~~ The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new <u>configuration</u> ~~transport channel~~ parameters ~~to be applied in cell 2~~. The UE shall reconfigure the new <u>configuration</u> ~~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			<u>Void</u>	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.1~~
2	←		~~BCCH~~<u>Void</u>	~~The SS starts to broadcast BCCH on the primary CCPCH in cell2.~~
3	←		TRANSPORT CHANNEL RECON<u>F</u>IGURATION	<u>UL scrambling code is modified,</u>~~Hard handover to cell 2. Including UE information elements("TFS")~~
4			<u>Void</u>	~~UE shall stop all uplink transmissions and reconfigure itself to use the new transport channel parameters~~
5	→		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 <u>as "Speech in CS" or "Non speech in CS" or "</u>~~Packet to CELL_DCH from CELL_DCH in PS~~<u>Packet to CELL_DCH from CELL_DCH in PS</u>" <u>as found</u> in Annex A, with the following exceptions:

Information Element	Value/remark
Uplink DPCH info	
- Scrambling code number	<u>Different value from previous value</u>
~~TrCH Information Elements~~	
~~-Uplink transport Channels~~	
~~-Added or Reconfigured TrCH information list~~	~~Number of Transport blocks = 2~~
~~-Downlink transport Channels~~	
~~-Added or Reconfigured TrCH information list~~	
	~~Number of Transport blocks = 2~~
~~Downlink information for each radio links~~	~~Same downlink UARFCN as used for cell 2~~
~~-Primary CPICH info~~	
~~- Primary Scrambling Code~~	~~150~~
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	~~Initialise~~<u>Maintain</u>

8.2.4.1.5   Test requirement

After step 3 the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC</u>~~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 5 the UE shall continue to communicate with the SS on the DCCH and DTCH in cell 2, using the new Transport Format Set (TFS) applicable on the existing transport channel.~~

8.2.4.1a Transport channel reconfiguration (Transmission Rate Modification with Timing Maintained) from CELL_DCH to CELL_DCH of the same cell: Success

8.2.4.1a.1 Definition

8.2.4.1a.2 Conformance requirement

The UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC after it correctly reconfigures the radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover to modify the transmission rate by (1) changing physical channel information and (2) changing either TFCS and TFS or TFCS only.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.1a.3 Test purpose

To confirm that the UE reconfigures the physical channel and transport channel configuration according to a TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover by changing physical channel information and either TFCS and TFS or TFCS only.

8.2.4.1a.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.

Note : Transmission rate shall be set to the maximum rate for the UE during the radio bearer establishment procedure.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE to modify the transmission rate which includes a new physical channel information and the TFCS is reconfigured to restrict the use of TFCI. The UE shall reconfigure the new configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. Next the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE to modify the transmission rate which includes new physical channel information and new TFCS and TFS. The UE shall reconfigure the new configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	
2	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
3	←		TRANSPORT CHANNEL RECONFIGURATION	
4	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

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 titled as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
UL Transport channel information for all transport channels	Not Present
Added or Reconfigured UL TrCH information	Not Present
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE mode	FDD
- CHOICE DL parameters	Explicit
- DL DCH TFCS	
- CHOICE TFCI Signalling	Normal
- TFCI Field 1 Information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfigure	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from TS34.108 clause 6.10 Parameter Set which is used in RADIO BEARER SETUP message in initial procedure.
- CTFC information	
- CTFC	This CTFC value is set as defined value to be restricted from the TFCS defined in RADIO BEARER SETUP message and repeated for TFC numbers.
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	Not Present

8.2.4.1a.5   Test requirement

After step 1 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

After step 3 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.4.2   Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported 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 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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 unsupported of by the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	TRANSPORT CHANNEL RECONGURATION	Including unsupported configuration unsupported by the UE
2		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channels.

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 as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink (Nd)	 0. 950
TrCH Information Elements	
-Uplink transport Channels	
-Added or Reconfigured TrCH information list	 Number of Transport blocks = 4096
-Downlink transport Channels	
-Added or Reconfigured TrCH information list	Selected value as the UE can not support. Number of Transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
Failure cause	Configuration unsupported
~~Other information element~~	~~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 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~~ according to the received TRANSPORT CHANNEL RECONFIGURATION 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 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 configuration ~~transport channel~~ according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new configuration ~~transport channel~~ parameters but the SS does not configure the new physical channel specified in this message and keep its old configuration ~~it does not reconfigure the new transport channel~~. Therefore, the UE cannot synchronise with the SS on the new physical channel ~~reconfigure them~~ and ~~have to~~ shall revert to the old configuration after T312 expires. 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~~new configuration.
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 as "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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

The UE shall perform a cell update ~~upon failure of reconfiguration for a transport channel because of~~when physical channel failure and reversion failure occur. After the UE completes cell update procedure, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.4.3   Test purpose

To confirm that the UE transmits ~~RADIO~~ a TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure when the UE cannot <u>synchronise with the SS on the new channel before T312 expires and fails</u>~~reconfigure the new transport channel due to a failure of L1 configuration and subsequently fail~~ to revert to the old configuration.

8.2.4.4.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or</u> PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 <u>-, depending on the CN domain(s) supported by the UE</u>~~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. The message specifies a new <u>configuration</u> ~~set of transport channel parameters~~ but the SS does not reconfigure <u>the new channel specified in this message and release the old configuration</u>~~L1 correspondingly~~. The UE cannot <u>synchronise with SS before T312 expires</u>~~reconfigure the new transport channel~~ and shall attempt to revert to the old configuration. ~~But SS shall not revert to old configuration.~~ The UE cannot revert to the old configuration and then transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	~~Specifies the use of a new setting for transport channel.~~
2				The SS does not reconfigure L1 in accordance with TRANSPORT CHANNEL RECONFIGURTION message and <u>release the</u> ~~shall not use~~ old configuration.
3	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
4	←		CELL UPDATE CONFIRM	This message include<u>s</u> IE "Physical channel information elements".
5				The SS change<u>s</u> physical channel configuration according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled as "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition
~~U-RNTI~~	~~Same as CELL UPDATE message in step 3~~
~~Frequency info~~	
~~- UARFCN uplink(Nu)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~- UARFCN downlink(Nd)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~Maximum allowed UL TX power~~	~~33dBm~~
~~CHOICE Mode~~	~~FDD~~
~~Downlink information for each radio links~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~
~~- PDSCH with SHO DCH info~~	~~Not Present~~
~~- 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~~
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	~~2~~
~~- 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~~
~~- SCCPCH information for FACH~~	~~Not Present~~

TRANSPORT CHANNEL RECONGURATION FAILURE (Step 7)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"TRANSPORT CHANNEL RECONGURATION"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.4.4.5 Test requirement

After step 2 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

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 receives a TRANSPORT CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION message, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

~~If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

8.2.4.5.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than a TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.4.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a ~~RADIO BEARER~~

SETUPTRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical configuration channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	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 due to the reception of TRANSPORT CHANNEL RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:.

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as corresponding message found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	2

TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the~~
~~activation time specified in the message of step 1.~~

After step 2 the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER SETUP~~
~~message and shall~~ transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH
using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 <u>3</u> the UE <u>transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the new</u>
<u>coniguration specified in step 1</u>~~communicates with the SS on the DCCH and DTCH using the new physical channel~~
~~parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message~~.

8.2.4.6   Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.6.1   Definition

8.2.4.6.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL
RECONFIGURATION message which <u>does not include any IEs except IE "Message Type"</u>~~makes use of a undefined~~
~~value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. Then it shall transmit a TRANSPORT CHANNEL
RECONFIGURATION FAILURE message with the value "protocol error" set in IE "failure cause" and also "<u>ASN.1</u>
<u>violation or encoding error</u>~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall
keep existing configuration ~~before~~ <u>upon</u> reception of a TRANSPORT CHANNEL RECONFIGURATION message<u>,</u>
<u>which</u> ~~when the TRANSPORT CHANNEL RECONFIGURATION message~~ include<u>s</u> some IEs set to <u>give an</u> invalid
~~value~~<u>configuration</u>, and then the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE
<u>message</u> including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.6.3   Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIG<u>U</u>RATION FAILURE message on the
DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message <u>which does not</u>
<u>include any IEs except IE "Message Type"</u>~~comprises an undefined value in the mandatory IE "UTRAN DRX cycle~~
~~length coefficient"~~.

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the
DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs
set to <u>give an</u> invalid ~~value~~<u>configuration</u>..

8.2.4.6.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or</u> PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS
34.108<u>, depending on the CN domain(s) supported by the UE</u>.

Test Procedure

The UE is in ~~the~~ CELL_DCH state. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION
message to the UE, which <u>does not include any IEs except IE "Message Type"</u>~~includes a undefined value in the~~
~~mandatory IE "UTRAN DRX cycle length coefficient"~~. 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 "<u>ASN.1 violation or encoding error</u> ~~Information element value~~

not comprehended" in IE "Protocol error cause". ~~The UE keeps initial configuration and~~ SS transmits a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration. The UE keeps current configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	See specific message content.
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change ~~the~~ its configuration.
3	←		TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to give an invalid ~~value~~configuration
4				The UE does not change ~~the~~ its configuration
5	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

~~The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:~~

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value~~Not Present

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~" TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS"as found in Annex A with the following exceptions.

~~The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:~~

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
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 CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE "failure cause" and set value " ASN.1 violation or encoding error Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

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 message and transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC, 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 newthe 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: 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 to the UE and the UE performs a state transition from CELL_DCH to CELL_FACH in the same cell. The UE then reconfigures the new ~~transport~~ channels 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 with the following exception:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

.

8.2.4.7.5   Test requirement

After step ~~3~~ 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the common physical channel ~~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   Void

8.2.4.9   Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.4.9.1   Definition

8.2.4.9.2   Conformance requirement

The UE shall initiate a cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE completes a cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the ~~transport~~ channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.9.3   Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION ~~FAILURE~~ COMPLETE message after it completes a cell update procedure.

8.2.4.9.4   Method of test

Initial Condition

System Simulator: ~~2 cells - Cell 1 is active, Cell 2 is inactive~~1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 ~~in cell 1~~.

Test Procedure

Table 8.2.4.9

~~Parameter~~	~~Unit~~	~~Cell 1~~		~~Cell 2~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 1~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.4.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.~~

The UE is in ~~the~~ CELL_DCH state ~~in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.9 and broadcast BCCH on the primary CCPCH in cell 2.~~ Then, ~~the~~ the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes IE"Primary CPICH info" and no dedicated physical channel information to transit from CELL_DCH to CELL_FACH, to the UE. As the UE cannot detect the specified cell, ~~The~~ the UE shall initiate a ~~select cell 2 by performing~~ cell re-selection procedure and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit~~ TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			~~Void~~	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.9.~~
2	←		~~BCCH~~Void	~~The SS starts to broadcast BCCH on the primary CCPCH in cell2.~~
3	←		TRANSPORT CHANNEL RECONGURATION	This message include IE "Primary CPICH info".
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI"".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

~~CELL_DCH in PS" as found in Annex A with the following exceptions:~~

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH info - Primary scrambling code	 150

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
~~U-RNTI~~ ~~- SRNC Identity~~ ~~- S-RNTI~~ Cell Update Cause	 ~~Assigned previously in cell 1~~ ~~Assigned previously in cell 1~~ "~~radio link failure~~cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is ~~identical~~ same as "CELL UPDATE CONFIRM message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

8.2.4.9.5   Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

~~After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

8.2.4.10   Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success

8.2.4.10.1   Definition

8.2.4.10.2   Conformance requirement

The UE shall correctly reconfigure the ~~transport~~ channels according to a TRANSPORT CHANNEL RECONFIGURATION message, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.10.3   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~~.

8.2.4.10.4   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 ~~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, to the UE. 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.

8.2.4.10.5   Test requirement

After step 3 2 the UE shall <u>transmit a TRANSPORT RECONFIGURATION COMPLETE message on the newly configured DPCH.</u>~~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 channel~~s.

8.2.4.11   Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.4.11.1   Definition

8.2.4.11.2   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 unsupported" in IE "failure cause<u>"</u>.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.11.3   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.

8.2.4.11.4   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 ~~to the UE~~, which includes ~~unsupported~~ configuration parameters <u>unsupported for</u> ~~by~~ the UE<u>, to the UE</u>. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	TRANSPORT CHANNEL RECONGURATION	The message includes ~~unsupported~~ configuration <u>unsupported</u> by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change ~~the transport channel~~<u>its configuration</u>.

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink (Nu)	0
- UARFCN downlink (Nd)	950
TrCH Information Elements	
-Uplink transport Channels	
-Added or Reconfigured TrCH information list	
	Number of transport blocks= 4096
-Downlink transport Channels	
-Added or Reconfigured TrCH information list	
	Number of transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.4.11.5 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. The UE shall set "configuration unsupported" in IE "failure cause" of the message.

8.2.4.12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old channel)

8.2.4.12.1 Definition

8.2.4.12.2 Conformance requirement

The UE shall revert to the old configuration when the UE has failed to reconfigure the new transport channel requested and detects the same serving cell only. The UE shall, and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.12.3 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.

8.2.4.12.4   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~~the~~ CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message ~~to the UE~~, which includes the new transport channel parameters, to the UE. However, SS keeps its current physical channel configuration.~~does not reconfigure the new transport channel accordingly~~. Hence, the UE shall experience a failure in the reconfiguration process. After T312 ~~expiry~~expires, 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~~expires 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

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~TRANSPORT CHANNEL RECONFIGURATION FAILURE~~
Failure cause	Physical channel failure
~~Other information element~~	~~Not checked~~

8.2.4.12.5   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".

8.2.4.13 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.13.1 Definition

8.2.4.13.2 Conformance requirement

The UE shall initiate a cell update procedure when it selects another cell, following a physical channel failure in the transport channel reconfiguration procedure. After the UE completes the cell update procedure, the UE transmits 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.

8.2.4.13.3 Test purpose

To confirm that the UE transmits ~~RADIO~~ a TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure, when the UE cannot reconfigure the new ~~transport~~ channel ~~for the failure of L1 configuration~~before timer T312 expires.

8.2.4.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 ~~is~~and 2 are active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Table 8.2.4.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	dBm/ 3.84 MHz	-7360	-7975	~~switched off~~ 75	-7360

Table 8.2.4.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~between columns "T0" ~~to~~and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in ~~a~~cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new ~~set of~~ configuration~~transport channel~~parameters. However, the SS does not reconfigure the specified configuration~~L1 and the new transport channel accordingly~~. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.13 ~~and begins to broadcast the BCCH on the primary CCPCH in a cell 2~~. As a result, the UE cannot ~~reconfigure~~synchronise with the SS on the new DPCH before T312 expires~~the new transport channel~~. The UE initiates the cell re-selection procedure ~~find that cell 2 is available, camp onto it, and~~transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits~~ TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	
2				The SS does not reconfigure L1 and transport channel in accordance with the settings in the message, and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.13.
3	←		~~BCCH~~Void	~~The SS starts to transmit the BCCH on the primary CCPCH in cell 2.~~
4				The UE shall find cell 2, camp onto it,
5	→		CELL UPDATE	This message include the value "cell reselection" set in IE "Cell update cause".
6	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI".~~
7	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
8	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message ~~is~~ are identical as "CELL UPDATE CONFIRM message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 5~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

TRANSPORT CHANNELRECONGURATION FAILURE (Step 8)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"TRANSPORT CHANNEL RECONGURATION"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.4.13.5   Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

~~After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 7 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.4.14   Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.14.1   Definition

8.2.4.14.2   Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION message, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

~~If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

8.2.4.14.3   Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than a TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.4.14.4   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_ ~~DCH~~ FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep ~~the~~ its current configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE~~RADIO BEARER SETUP FAILURE~~ message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS ~~receives~~ acknowledges the ~~RADIO~~ TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER 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 due to the reception of~~ reconfigure according to the TRANSPORT CHANNEL RECONFIGURATION ~~RADIO BEARER SETUP~~ message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE~~FAILURE~~	This message is on DCCH using AM RLC.

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 with the following exceptions.

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions.

Information Element	Value/remark
Activation Time Info	~~Current CFN-[current CFN mod 8 + 8]~~Not Present
Uplink DPCH info	
- Scrambling code number	2

TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
Failure cause	Incompatible simultaneous reconfiguration
~~Other information element~~	~~Not checked~~

8.2.4.14.5   Test requirement

~~After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.~~

After step 2 the UE shall ~~keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall~~ transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 3 the UE shall transmit a ~~communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the~~ RADIO BEARER RECONFIGURATION COMPLETE message.

8.2.4.15   Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.15.1   Definition

8.2.4.15.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which does not includes ~~an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~any IEs except IE "Message Type". The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE "failure cause" and also " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep existing configuration ~~before~~ upon the reception of a TRANSPORT CHANNEL RECONFIGURATION message, which ~~when the TRANSPORT CHANNEL RECONFIGURATION message~~ includes some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.15.3   Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which does not include any IEs except IE "Message Type"~~uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~.

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid ~~value~~configuration.

8.2.4.15.4   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 an invalid TRANSPORT CHANNEL RECONFIGURATION message ~~to the UE~~, which <u>does not</u> include~~s~~ <u>any IEs except IE "Message Type", to the UE</u> ~~a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. 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 "<u>ASN.1 violation or encoding error</u> ~~Information element value not comprehended~~" in IE "Protocol error cause". ~~The UE keeps initial configuration and~~ SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to <u>give an</u> invalid ~~value~~<u>configuration</u>. The UE <u>keeps its current configuration and</u> transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	See <u>specific</u> message content.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change ~~the~~ <u>its</u> configuration.
3	←		TRANSPORT CHANNEL RECONFIGURATION	This message includes IE<u>s</u> which <u>is</u> set to <u>give an</u> invalid ~~value~~<u>configuration</u>
4				The UE does not change ~~the~~ <u>its</u> configuration<u>.</u>
5	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid 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_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:~~

Information Element	Value/remark
~~All IEs~~<u>UTRAN DRX cycle length coefficient</u>	~~Out of range value.~~<u>Not Present</u>

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

<u>The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:</u>

Information Element	Value/remark
~~Message Type~~	~~" TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	<u>ASN.1 violation or encoding error</u>~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

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" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Added or Reconfigured UL TrCH information~~	
~~- Uplink transport channel type~~	~~DCH~~
~~- UL Transport channel identity~~	~~1~~
~~- TFS~~	
~~- Dynamic Transport format information~~	~~(This IE is repeated for TFI number)~~
~~- RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- CHOICE Logical Channel list~~	~~Explicit List~~
~~- RB identity~~	~~2~~
~~- LogicalChannel~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~Other information element~~	~~Not checked~~

8.2.4.15.5   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. The content of the message shall specify "protocol error" in IE "failure cause" and also " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step 4 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.4.16   Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.16.1   Definition

8.2.4.16.2   Conformance requirement

The UE shall remain in CELL_FACH state in another cell and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC after ~~and~~ transition from CELL_FACH in the current cell to CELL_FACH in ~~the another~~another cell as requested in the received TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.16.3   Test purpose

To confirm that the UE transits from CELL_FACH in the current cell to CELL_FACH in another cell ~~reconfigures a new transport channel~~ according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.16.4   Method of test

Initial Condition

System Simulator: 1 2 cells – Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.4.16

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

Table 8.2.4.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes the parameters that invoke the UE to transit from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE, which includes new transport channel parameters. Then the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.16. The UE reconfigures the new transport channel and the new physical channel according to the system information messages. The UE moves to cell 2 and configures the new transport channels and the common physical channel according to the system information messages and transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.4.16. Reconfiguration of a new 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_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 code	150

8.2.4.16.5 Test requirement

After step ~~3~~ 2 the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on DCCH using AM RLC in cell 2</u>~~transit from CELL_FACH to CELL_FACH and continue to communicate with the SS on the DCCH using the existing transport channel~~.

8.2.4.17 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.4.17.1 Definition

8.2.4.17.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE complete cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the ~~transport~~ channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.17.3 Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION <u>COMPLETE</u> ~~FAILURE~~ message after UE completes a cell update procedure <u>indicated by a TRANSPORT CHANNEL RECONFIGURATION message</u>.

8.2.4.17.4 Method of test

Initial Condition

System Simulator: 2 cells <u>-</u> Cell 1 ~~is~~<u>and 2 are</u> active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.4.17

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~<u>Ec</u>	dBm<u>/ 3.84 MHz</u>	~~-73~~<u>60</u>	~~-79~~<u>75</u>	~~switched off~~ <u>-75</u>	~~-73~~<u>60</u>

Table 8.2.4.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~<u>between</u> columns "T0" ~~to~~<u>and</u> "T1", whenever the description in multi-cell condition specifies <u>a reverse in</u> the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in cell 1. On transmitting ~~a~~ TRANSPORT CHANNEL RECONFIGURATION message, which does not include the IE"Primary CPICH info", the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.17 ~~and broadcast BCCH on the primary CCPCH in cell 2~~. ~~After the UE successfully camp onto cell 2, it~~The UE shall initiate the cell reselection ~~update~~ procedure.~~.~~ The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmit a ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit~~ TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	This message does not include IE "Primary CPICH info"
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.17.
3	←		~~BCCH~~Void	~~The SS starts to broadcast BCCH on the primary CCPCH in cell2.~~
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		TRANSPORT CHANNELRECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use 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

Downlink information for each radio links
    - Primary CPICH info
    - Primary scrambling code
	
	Not Present~~150~~

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	
~~- SRNC Identity~~	~~Assigned previously in cell 1~~
~~- S-RNTI~~	~~Assigned previously in cell 1~~
~~Cell Update Cause~~	~~"cell reselection"~~

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is ~~identical~~ same as "CELL UPDATE CONFIRM message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

8.2.4.17.5   Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE ~~FAILURE~~ message on the DCCH using AM RLC.

~~After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

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 a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

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: 1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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~~ activation time specified in the previous TRANSPORT CHANNEL RECONFIGURATION message ~~the radio bearer~~ elapses, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1		←	TRANSPORT CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"~~Including IE "Uplink DPCH info"~~
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2		←	TRANSPORT CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in TRANSPORT CHANNEL SETUP message of step 1. The IE "Secondary scrambling code" is set to "2".
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and ~~confirms configuration~~configures 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 with the following exceptions:~~

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info	
- Secondary scrambling code	1

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info~~DL channelisation code~~	
- Secondary scrambling code	2

8.2.4.18.5   Test requirement

After step ~~3~~ 2 the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC</u>~~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 8.2.4<u>, clause 8.6.3.11.</u>

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: 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 <u>the activation time specified in the previous TRANSPORT CHANNEL RECONFIGURATION message elapses</u>~~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 <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"~~Includes the IE "Uplink DPCH info"~~
~~1a~~				~~The SS set its Downlink DPCH scrambling code to "1".~~
2	←		TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1. The IE "Secondary scrambling code" is set to "2".
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and ~~confirms configuration~~ configures 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 with the following exceptions:

Information Element	Value/remark
Activation Time Info - Uplink DPCH Info - Secondary scrambling code	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

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 with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH Info~~DL channelisation code~~ - Secondary scrambling code	Not Present 2

8.2.4.19.5   Test requirement

After step ~~3~~ 2 the UE shall transmit a ~~communicate with the SS on the radio bearer specified in the~~ TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC~~in step 1~~.

8.2.4.20   Transport Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.4.20.1   Definition

8.2.4.20.2   Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invoke the UE to ~~using and~~ transits from CELL_DCH to CELL_PCH ~~when receives a TRANSPORT CHANNEL RECONFIGURATION message~~. And then,

the UE shall enter CELL_PCH state~~reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message~~.

Reference

3GPP TS 25.331 clause 8.2.~~2~~4.

8.2.4.20.3   Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and enters CELL_PCH state ~~before entering CELL_PCH state~~ after it ~~received~~ receives a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to CELL_PCH~~and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell~~.

8.2.4.20.4   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, which invoke the UE to transit from CELL_DCH to CELL_PCH. The UE transmits a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response"~~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				The UE is in CELL_PCH state.~~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
RRC State Indicator	CELL_PCH

Downlink information for each radio link
  - Primary CPICH info
    - Primary scrambling code
	
	100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.4.20.5   Test requirement

After step 1 the UE shall transmit~~s~~ TRANSPORT CHANNEL RECONFIGURATION COMPLETE message ~~to the UE~~ on uplink DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response".

~~After step 3 the UE shall transit from CELL_DCH to CELL_PCH.~~

8.2.4.21   Transport Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.4.21.1   Definition

8.2.4.21.2   Conformance requirement

The UE shall transmit~~s~~ TRANSPORT CHANNEL RECONFIGURATION COMPLETE message after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invoke the UE to ~~using and~~ transits from CELL_DCH to URA_PCH ~~when receives a TRANSPORT CHANNEL RECONFIGURATION message~~. And then, the UE shall enter URA_PCH state~~reconfigure radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message~~.

Reference

3GPP TS 25.331 clause 8.2.~~2~~4.

8.2.4.21.3   Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and enters URA_PCH state~~before entering URA_PCH state~~ after it received a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to URA_PCH ~~and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell~~.

8.2.4.21.4   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, which invoke the UE to transit from CELL_DCH to URA_PCH. The UE transmits a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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				The UE is in URA_PCH state. ~~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
RRC State Indicator	URA_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.4.21.5   Test requirement

After step 1 the UE shall transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 3 the UE shall transit from CELL_DCH 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 the allowed uplink 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 does not transmit any data on the DTCH for the signalling radio bearer in on the uplink direction, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message sent from the SS, which is set to the value in IE " Restricted TrCH information Allowed Transport format combination index".

8.2.5.1.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH stateestablishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message using AM_RLC on the DCCH, which indicates that only TFC₀-TF0 is allowed on the uplink for DCH transport channel on the DCCH. The SS transmits a UE CAPABILITY ENQUIRY message using AM_RLC on the downlink DCCH and wait for the reception of a STATUS PDU. The UE shall be restricted from transmitting the DCH carrying STATUS PDU and the SS does not receive the STATUS PDUreconfigure 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 is in CELL_DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer.a DTCH logical channel allocated for communication between UE and SS
2	←		TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates the UE that it is restricted to use the TFS defined in Restricted TrCH information IE as the DCH is not transmitted on the uplink DCCH. The UE shall use the TFC Subset as defined in value IE " Allowed Transport format combination index".
2a	←		UE CAPABILITY ENQUIRY	The SS transmits this message to make the UE send an uplink STATUS PDU.
3				The UE shall not transmit a STATUS PDUany data on the DTCH.

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements -DPCH/PUSCH TFCS uplink in uplink - Restricted TrCH information - Uplink transport channel type - Restricted UL TrCH identity - Allowed TFI - Allowed Transport format combination list	 DCH 5 0
- Allowed transport format combination	0 and 3(If initial state is "state 6-9")
- Allowed transport format combination	0 and 5(If initial state is "state 6-10")

8.2.5.1.5   Test requirement

After step 2a the UE shall not transmit a STATUS PDU on the uplink DCCHstop 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~~transmit DTCH on the uplink signalling radio bearer, following the reception of a TRANSPORT FORMAT COMBINATION CONTROL message which include IE "~~Minimum allowed~~Full transport format combination set".

8.2.5.2.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state ~~with DTCH allocated but fully restricted~~. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which indicates that only TF0 is allowed on the uplink for DCH transport channel on the DCCH. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which includes IE "Full transport format combination set" to remove the restriction for the uplink TFC. The SS transmits a UE CAPABILITY ENQUIRY message UE and UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The SS transmits a UE CAPABILITY INFORMATION CONFIRM.~~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 include "Minimum allowed transport format combination set".~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is in CELL_DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer.~~No data transmission on the DTCH with a restriction in the uplink direction, following the execution of test 8. 2.5.1.~~
2		←	TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates to UE that it is restricted to the TFS defined in Restricted TrCH information IE as the DCH is not transmitted on the uplink DCCH. ~~Use the TFCS according to IE "Minimum allowed Transport format combination index".~~
3		←	TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates the UE that it removes the restriction to use the TFS defined in Restricted TrCH information IE in step 2.
4		←	UE CAPABILITY ENQUIRY	The SS transmits this massage to make the UE sends a response message.
5	→		UE CAPABILITY INFORMATION	
~~3~~6		←	UE CAPABILITY INFORMATION CONFIRM	~~The UE begins to transmit the data on the DTCH.~~

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
- Restricted TrCH information	
- Uplink transport channel type	DCH
- Restricted UL TrCH identity	5
- Allowed TFI	0

TRANSPORT FORMAT COMBINATION CONTROL (Step 3)

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
- Full transport format combination set	Null
~~TrCH information elements~~	
~~-Minimum allowed transport format combination set~~	~~5(If initial state is "state 6-9")~~
~~-Minimum allowed transport format combination set~~	~~6(If initial state is "state 6-10")~~

8.2.5.2.5   Test requirement

After step ~~2~~ 4 the UE shall transmit a UE CAPABILITY INFORMATION message ~~begin to transmit the data~~ on ~~the DTCH in~~ the uplink DCCH using AM RLC.

8.2.5.3   ~~Transport format combination control in CELL_DCH: Failure (Incompatible simultaneous reconfiguration)~~Void

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 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 message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message is received.~~

8.2.5.3.4   ~~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 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 with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
- Uplink transport channels	
- Added or reconfigured TrCH information list	
- Transport channel identity	2
- Semi-Static Transport Format Information	
- Type of channel coding	Select a different coding scheme from default message content

~~TRANSPORT FORMAT COMBINATION CONTROL~~

~~Information Element~~	~~Value/remark~~
~~DPCH TFCS in Uplink~~	~~Restricted TrCH information~~
~~- Subset Representation~~	~~Not Present (All TFCs are restricted)~~
~~- Allowed TFIs~~	

~~TRANSPORT FORMAT COMBINATION CONTROL FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~	~~"TRNSPORT FORMAT COMBINATION CNTROL FAILURE"~~
~~RRC transaction identifier~~	~~0~~
~~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 and Invalid configuration)

8.2.5.4.1   Definition

8.2.5.4.2   Conformance requirement

The UE shall keep ~~old~~ its current configuration when it receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message. It shall then transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message, indicating "protocol error" in IE "failure cause" and "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep existing configuration ~~before~~ upon the reception of a TRANSPORT FORMAT COMBINATION CONTROL message, which ~~when the TRANSPORT CHANNEL RECONFIGURATION message~~ includes some IEs set to give an invalid ~~value~~configuration, and then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 message, it transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL message has been received.

To confirm that the UE transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to give an invalid ~~value~~configuration.

8.2.5.4.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state~~establishes a radio access bearer on the DCH for a communication~~. The SS transmits an invalid TRANSPORT FORMAT COMBINATION CONTROL message which does not include any IEs except IE "Message Type". The UE shall ~~then~~ transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message which is set to "ASN.1 violation or encoding error" in IE "Protocol error cause"~~and continues the communication using the radio access bearer~~. ~~The UE keeps initial configuration and~~ SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to get an invalid ~~value~~configuration. The UE keeps its current configuration and transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				UE is in CELL_DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer.~~RRC connected state on the DTCH for a communication~~
2	←		TRANSPORT FORMAT COMBINATION CONTROL	See specific message content.
3	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change ~~the~~ its configuration
4	←		TRANSPORT FORMAT COMBINATION CONTROL	This message includes IEs set to give an invalid ~~value~~configuration.
5	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE ~~does~~ shall not change ~~the~~ its configuration
~~6~~	~~→~~		~~TRANSPORT FORMAT COMBINATION CONTROL FAILURE~~	~~The IE "failure cause" shall be set to "invalid configuration"~~

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Information Element	Value/remark
~~DPCH TFCS in uplink~~ ~~- Minimum allowed Transport format combination index~~All IEs	~~Set to the value "MaxTFCValue"~~Not Present

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 3)

Information Element	Value/remark
Message Type	"TRANSPORT FORMAT COMBINATION CONTROL FAILURE"
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT FORMAT COMBINATION CONTROL message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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.
Failure cause	"protocol error"
Protocol error information	
-Protocol error ~~case~~ cause	ASN.1 violation or encoding error~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

TRANSPORT FORMAT COMBINATION CONTROL (Step 4~~5~~)

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
- Restricted TrCH information	
- Uplink transport channel type	DCH
- Restricted UL TrCH identity	15 (for RACH transport channel identity)
- Allowed TFI	0
~~ - Allowed Transport format combination list~~	
~~ - Allowed transport format combination~~	~~10~~

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 6)

Information Element	Value/remark
Message Type	"TRANSPORT FORMAT COMBINATION CONTROL FAILURE"
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT FORMAT COMBINATION CONTROL message.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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.
Failure cause	Invalid configuration
~~Other information element~~	~~Not checked~~

8.2.5.4.5   Test requirement

After step 3 2 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 "ASN.1 violation or encoding error~~information element not comprehended~~" in IE "protocol error information". ~~The UE shall continue communicate with SS using the radio access bearer.~~

~~After step 4 the UE shall keep its old configuration.~~

After step 5 4 the UE shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

8.2.6   Physical channel reconfiguration

8.2.6.1   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (~~Hard handover~~ code modification~~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~~indicates a hard handover ~~purposes~~procedure and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC~~. 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 be able to communicate with the SS on the new physical channel~~resume normal transmission and reception operations~~.

8.2.6.1.4   Method of test

Initial Condition

System Simulator: ~~2 cells Cell 1 is active, Cell 2 is inactive~~1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending to the CN domain(s) supported by the UE~~ in cell 1~~.

Test Procedure

~~Table 8.2.6.1~~

~~Parameter~~	~~Unit~~	~~Cell 1~~		~~Cell 6~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 2~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.6.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.~~

The UE is in ~~the~~ CELL_DCH state~~ in cell 1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.1 and broadcast BCCH on the primary CCPCH in cell 6.~~ The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes a new UL scrambling code ~~physical channel parameter specified in the "Frequency Info" IE~~. The UE shall reconfigure the physical channel at the activation time specified in this message~~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 after its transition.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
~~1~~				~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.1.~~
~~2~~	←		~~BCCH~~	~~The SS starts to broadcast BCCH on the primary CCPCH in cell 6.~~
~~3~~1	←		PHYSICAL CHANNEL RECONFIGURATION	Including new UL scrambling code ~~frequency information.~~
~~4~~2		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	~~UE shall stop uplink activities to cell 1 and begin to reconfigure the physical channel parameters.~~
~~5~~		→	~~PHYSICAL CHANNEL RECONFIGURATION COMPLETE~~	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

~~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~~
~~Downlink information common for all radio links~~	
~~- Downlink DPCH info common for all RL~~	
~~- Timing Indicator~~	~~Initialise~~

8.2.6.1.5   Test requirement

After step ~~4~~ 1 the UE shall ~~send~~ transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC ~~in cell 6~~.

~~After step 5 the UE communicate with SS, using DTCH and DCCH on the new dedicated physical channel in cell 6.~~

8.2.6.2   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (~~Hard handover~~ code modification~~to another frequency~~): Failure (Unsupported 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 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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

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 unsupported ~~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 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~~ unsupported by the UE
2	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not ~~change the physical channel~~reconfigure 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 as "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	~~63984~~0 ~~Not Present~~950

PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Configuration unsupported
~~Other information element~~	~~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 unsupported" in IE "failure cause".

8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (~~Hard handover~~ code modification~~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~~ before 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~~ before timer T312 expiry.

8.2.6.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes new UL scrambling code frequency parameters. However, the SS keeps its current dedicated physical channel configuration does not reconfigure the new physical channel. The UE fails is expected to encounter a failure to synchronise with the SS on reconfigure the new physical channel and after T312 timer expiry expires 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 UL scrambling code frequency information.
2				The SS does not reconfigure the physical channel so that the UE fails to synchronise on reconfigure to the new physical channel.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry expires, the UE shall revert to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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~~ code modification~~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 a cell update 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. After the UE completes the cell update procedure, the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.4.3   Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure when the UE ~~cannot~~ fails synchronise on the old physical channel after the UE cannot synchronise on ~~reconfigure~~ the new physical channel ~~for the failure~~ according to the received PHYSICAL CHANNEL RECONFIGURATION message~~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 6 is inactive~~1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 , depending on the CN domain(s) supported by the UE.~~in cell 1~~

Test Procedure

Table 8.2.6.4

~~Parameter~~	~~Unit~~	~~Cell 1~~		~~Cell 6~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 2~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.6.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi cell condition specifies the transmission power settings for cell 1 and cell 6.~~

The UE is in ~~the~~ CELL_DCH state ~~in cell 1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.4 and broadcast BCCH on the primary CCPCH in cell 2.~~The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new UL scrambling code ~~uplink and downlink frequency parameters of cell 6~~, but the SS does not configure the new physical channel and release the old configuration~~any dedicated physical channel in cell 6~~. The UE ~~is expected to~~ fails to synchronise on ~~reconfigure~~ the new dedicated physical channel and tries to revert to the old configuration. But the SS already deleted the old physical channel configuration and the UE cannot revert to the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a PHYSICAL

CHANNEL RECONFIGURATION COMPLETE ~~UTRAN MOBILITY INFORMATION CONFIRM~~ message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "-physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1			<u>Void</u>	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.4.~~
2	←		~~BCCH~~<u>Void</u>	~~The SS starts to broadcast BCCH on the primary CCPCH in cell 6.~~
3	←		PHYSICAL CHANNEL RECONFIGURATION	The message includes new <u>UL scrambling code</u> ~~frequency information.~~
4				SS does not configure any dedicated physical channel <u>and</u> ~~in cell 6,~~ 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.
5	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
6	←		CELL UPDATE CONFIRM	This message include<u>s</u> IE "Physical channel information elements".
7				The SS configure<u>s</u> the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
9	→		PHYSICAL CHANNELRECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

<u>The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:</u>

Information Element	Value/remark
<u>Activation Time</u>	<u>Current CFN-[current CFN mod 8 + 8]</u>
<u>Uplink DPCH info</u>	
<u> - Scrambling code number</u>	<u>1</u>
<u>Downlink information common for all radio links</u>	
<u> - Downlink DPCH info common for all RL</u>	
<u> - Timing Indicator</u>	<u>Maintain</u>
~~Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.~~	

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

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'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition
~~Frequency info~~	
~~- UARFCN uplink(Nu)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~- UARFCN downlink(Nd)~~	~~Reference to TS34.108 clause 5.1 Test frequencies~~
~~Maximum allowed UL TX power~~	~~33dBm~~
~~CHOICE Mode~~	~~FDD~~
~~Downlink information for each radio links~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~
~~- PDSCH with SHO DCH info~~	~~Not Present~~
~~- 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~~
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	~~2~~
~~- 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~~
~~- SCCPCH information~~	~~Not Present~~

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 9)

<u>The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:</u>

Information Element	Value/remark
~~Message Type~~	~~"PHYSICAL CHANNEL RECONGURATION FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.6.4.5   Test requirement

After step ~~2~~ <u>4</u> the UE shall transmits <u>a</u> CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "radio link failure"~~in cell 1~~.

After step 7 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.6.5   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modificationto another frequency): Failure (Incompatible simultaneous reconfiguration)

8.2.6.5.1   Definition

8.2.6.5.2   Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION message, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION SETUP, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

8.2.6.5.3   Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.6.5.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2	←		PHYSICAL CHANNEL RECONFIGURATION	Sent before the "~~Activation~~ activation ~~Time~~ time ~~Info~~" specified in the message in step 1 has elapsed.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of a PHYSICAL CHANNEL RECONFIGURATION ~~FAILURE~~ message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Speech in CS" or "Non speech in CS" or "~~Packet to CELL_DCH from CELL_DCH in PS~~Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

~~.~~

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
Uplink DPCH info	
- Scrambling code number	2
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

~~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~~
~~Activation Time Info~~	~~Current CFN-[current CFN mod 8 + 8]~~

PHYSICAL CHANNEL RECONFIGURATION FAILURE (step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

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 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.~~

After step 2 the UE shall ~~keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall~~ transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step ~~4~~ 3 the UE shall transmit a~~communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the~~ RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC on the DCCH.

8.2.6.6   Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (~~Hard handover~~ code modification~~to another frequency~~): Failure (Invalid message reception and Invalid configuration)

8.2.6.6.1   Definition

8.2.6.6.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message, which does not include~~s~~ any IEs except IE "Message Type"~~undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. It shall then transmit~~s~~ a PHYSICAL CHANNEL RECONFIGURATION FAILURE message which contains the value "protocol error" in IE "failure cause" and also "ASN.1 violation or encoding error~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep existing configuration ~~before~~ upon reception of a PHYSICAL ~~TRANSPORT~~ CHANNEL RECONFIGURATION message when the PHYSICAL ~~TRANSPORT~~ CHANNEL RECONFIGURATION message that includes some IEs set to give an invalid configuration~~value~~, and then the UE shall transmit a PHYSICAL ~~TRANSPORT~~ CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

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 an invalid PHYSICAL CHANNEL RECONFIGURATION message which does not include any IEs except IE "Message Type"~~uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~.

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 including some IEs set to give an invalid ~~value~~configuration.

8.2.6.6.4   Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE, which does not include any IEs except IE "Message Type" with a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". 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 "ASN.1 violation or encoding error Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits a PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid value configuration. The UE keeps its initial configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	See specific message content.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the its configuration.
3	←		PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which is set to give an invalid value configuration
4				The UE does not change the its configuration
5	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

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_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAllIEs	Out of range valueNot Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding errorInformation element value not comprehended
Other information element	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Downlink information for each radio links~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~
~~- PDSCH with SHO DCH info~~	~~Not Present~~
~~- 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~~
~~- 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~~
~~- SCCPCH information~~	~~Not Present~~

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~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 " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

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~~ which invoke the UE to transit~~ion~~ from CELL_DCH to CELL_FACH and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.7.3   Test purpose

To confirm that the UE reconfigures a common ~~new~~ physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to CELL_FACH ~~received from the SS~~.

8.2.6.7.4   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 to the UE. The UE shall then reconfigure the specified common ~~new~~ physical channel according to this message and the system information messages. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the DCCH ~~RACH~~.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration. ~~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 with the following exception:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

.

8.2.6.7.5   Test requirement

After step ~~3~~ 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~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: Success (Cell re-selection)

8.2.6.8.1 Definition

8.2.6.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.8.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message after the UE completes a ~~cell reselection and~~ cell update procedure.

8.2.6.8.4 Method of test

Initial Condition

System Simulator: ~~2 cells Cell 1 is active, Cell 2 is inactive~~1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

~~Table 8.2.6.8~~

~~Parameter~~	~~Unit~~	~~Cell 1~~		~~Cell 2~~	
		~~T0~~	~~T1~~	~~T0~~	~~T1~~
~~UTRA RF Channel Number~~		~~Ch. 1~~		~~Ch. 1~~	
~~CPICH RSCP~~	~~dBm~~	~~-73~~	~~-79~~	~~switched off~~	~~-73~~

~~Table 8.2.6.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.~~

The UE is in ~~the~~ CELL_DCH state ~~in cell 1~~. ~~The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.8 and broadcast BCCH on the primary CCPCH in cell 2.~~The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE "Primary CPICH info" and no dedicated physical channel information to invoke the UE to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, ~~as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. After the UE successfully camp onto cell 2, it~~ the UE shall initiate the cell update procedure ~~in cell 2~~. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a ~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits~~ PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		~~BCCH~~Void	~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8. The SS starts to broadcast BCCH on the primary CCPCH in cell 2.~~
2	←		PHYSICAL CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info".
3				~~The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8.~~
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI".~~
6	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~Void	
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH info - Primary scrambling code	 150

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
~~U-RNTI~~ ~~- SRNC Identity~~ ~~- S-RNTI~~ Cell Update Cause	 ~~Assigned previously in cell 1~~ ~~Assigned previously in cell 1~~ "cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is ~~identical~~ <u>same</u> as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

8.2.6.8.5   Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

~~After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 6 UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

~~After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

8.2.6.9   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success

8.2.6.9.1   Definition

8.2.6.9.2   Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, which ~~triggers a~~invoke UE to transition from CELL_FACH to CELL_DCH and shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.9.3   Test purpose

To confirm that the UE reconfigures a new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message~~-~~, which invoke UE to transit from CELL_FACH to CELL_DCH~~received from the UTRAN, in the case of an assignment of dedicated physical resource from the common physical channels used previously by the UE~~.

8.2.6.9.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_~~FACH~~DCH (state 6-~~11~~10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in ~~the~~ CELL_~~FACH~~DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to ~~start a~~transition from CELL_~~FACH~~DCH to CELL_~~DCH~~FACH. The UE shall reconfigure the common ~~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. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_FACH to CELL_DCH. The UE shall reconfigure the new dedicated 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	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
~~1~~4	←		PHYSICAL CHANNEL RECONFIGURATION	
~~2~~5				The UE shall ~~reconfigure the~~ allocated dedicated ~~-physical channels~~ ~~in order to start using the dedicated channels allocated.~~
~~3~~6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

8.2.6.9.5   Test requirement

After step ~~3~~ 2 the UE shall ~~transit from CELL_FACH to CELL_DCH and~~ transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel ~~continue to communicate with SS on the dedicated physical channel~~.

After step 5 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION message on the new dedicated physical channel.

8.2.6.10   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.6.10.1   Definition

8.2.6.10.2   Conformance requirement

The UE shall keep its old configuration when ~~the~~ it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies ~~unsupported~~ configuration parameters unsupported ~~for~~ by the UE. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the cause "configuration unsupported" 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 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.

8.2.6.10.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH ̶F̶A̶C̶H̶ DCH (state 6-̶1̶110) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in ̶t̶h̶e̶ CELL_ ̶F̶A̶C̶H̶ DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION
message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the
common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a
PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a
PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported ̶f̶r̶e̶q̶u̶e̶n̶c̶i̶e̶s̶
frequency for the UE. ̶T̶h̶e̶ ̶P̶H̶Y̶S̶I̶C̶A̶L̶ ̶C̶H̶A̶N̶N̶E̶L̶ ̶R̶E̶C̶O̶N̶F̶I̶G̶U̶R̶A̶T̶I̶O̶N̶ ̶i̶s̶ ̶s̶t̶r̶u̶c̶t̶u̶r̶e̶d̶ ̶i̶n̶ ̶s̶u̶c̶h̶ ̶a̶ ̶m̶a̶n̶n̶e̶r̶ ̶a̶s̶ ̶t̶o̶ ̶t̶r̶i̶g̶g̶e̶r̶
̶a̶ ̶t̶r̶a̶n̶s̶i̶t̶i̶o̶n̶ ̶f̶r̶o̶m̶ ̶C̶E̶L̶L̶_̶F̶A̶C̶H̶ ̶t̶o̶ ̶C̶E̶L̶L̶_̶D̶C̶H̶ ̶i̶n̶ ̶t̶h̶e̶ ̶U̶E̶.̶ The UE shall ̶r̶e̶s̶p̶o̶n̶d̶s̶ ̶w̶i̶t̶h̶transmit a PHYSICAL
CHANNEL RECONFIGURATION FAILURE message ̶s̶e̶n̶t̶ on the DCCH using AM RLC, setting "configuration
unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
̶1̶4		←	PHYSICAL CHANNEL RECONFIGURATION	Includes unsupported frequencies for the UE
̶2̶5	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel configuration, this message shall be sent using the old configuration̶o̶r̶i̶g̶i̶n̶a̶l̶ ̶a̶l̶l̶o̶c̶a̶t̶e̶d̶ ̶p̶h̶y̶s̶i̶c̶a̶l̶ ̶r̶e̶s̶o̶u̶r̶c̶e̶.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark

Frequency info
  - UARFCN uplink (Nu)
  - UARFCN downlink (Nd)
	
	̶6̶3̶9̶840
	̶N̶o̶t̶ ̶P̶r̶e̶s̶e̶n̶t̶950

PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.6.10.5   Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step 1 4 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 unsupported".

8.2.6.11   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration)

8.2.6.11.1   Definition

8.2.6.11.2   Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by before timer T312 expiryexpires and detects the same serving cell only. 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.

8.2.6.11.3   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 before the T312 expiry.

8.2.6.11.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH_FACH DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, requesting it to invoke the UE to transit from CELL_FACH to CELL_DCH due to a switch in physical resource reallocation. However, the SS keeps its current

physical channel configuration and then the UE cannot synchronise with the SS. ~~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~~ After T312 ~~expiry~~ expires, 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 is set ~~reports~~ "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
~~1~~4	←		PHYSICAL CHANNEL RECONFIGURATION	
~~2~~5				The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
~~3~~6	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 ~~expiry~~ expires the UE reverts to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Physical channel failure
~~Other information element~~	~~Not checked~~

8.2.6.11.5   Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step ~~2~~ 5 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".

8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.12.1 Definition

8.2.6.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set ~~IE "failure cause"~~ to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.12.3 Test purpose

To confirm that the UE initiates a cell update procedure after it fails to reconfigure the new physical channel and selects another cell.~~.~~

To confirm that UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes cell update procedure.

8.2.6.12.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 ~~is~~ and 2 are active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_~~FACH~~ DCH (state 6-~~11~~10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Table 8.2.6.12

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	dBm/ 3.84 MHz	-7360	-7975	~~switched off~~ -75	-7360

Table 8.2.6.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~ between columns "T0" ~~to~~ and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_~~FACH~~ DCH state in cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but the SS does not reconfigure L1 accordingly. The SS configures its downlink transmission power settings according to columns "T1"in Table 8.2.6.12. As a result, the UE fails to synchronise on the ~~reconfigure~~ new physical channel before timer T312 expires and reselect ~~to~~ cell 2 and then the UE shall transmit ~~sends~~ a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "~~radio link failure~~Cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a ~~UTRAN MOBILITY INFORMATION~~

CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
14	←		PHYSICAL CHANNEL RECONFIGURATION	
25				The SS does not configure the new dedicated physical channel in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.12.
36	←		BCCHVoid	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
47	→		CELL UPDATE	This message includes the value "cell reselection " set in IE "Cell update cause".
58	←		CELL UPDATE CONFIRM	This message includes IE "new U-RNTI" and IE "new C-RNTI"".
69	→		UTRAN MOBILITY INFORMATION CONFIRMVoid	UE shall send this message in the cell 2.
710	→		PHYSICAL CHANNEL RECONGURATION FAILURE	UE shall transmit this message in the cell 2.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 14)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 47)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 58)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A. ~~with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	~~Same as CELL UPDATE message in step 4~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~Different from previous S-RNTI~~
~~New C-RNTI~~	~~Different from previous C-RNTI~~

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 710)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	~~"PHYSICAL CHANNEL RECONGURATION FAILURE"~~
Failure cause	"physical channel failure"
~~Other information element~~	~~Not checked~~

8.2.6.12.5   Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step 3 6 the UE shall transmit a CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2 ~~.~~

~~After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.~~

After step 7 9 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.6.13   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.13.1   Definition

8.2.6.13.2   Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than a PHYSICAL CHANNEL RECONFIGURATION message, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

~~If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received.~~

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11

8.2.6.13.3   Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message ~~whilst~~ during a reconfiguring procedure due to a radio bearer message other than a PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.6.13.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH ~~FACH~~ DCH (state 6-1110) 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 to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep ~~the~~ its configuration as if it had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the UE transmits ~~SS receives~~ the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
14	←		RADIO BEARER RECONFIGURATION	
25	←		PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the frame number specified in IE "Activation time ~~info~~" of the message dispatched in step 14.
36	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of PHYSICAL CHANNEL RECONFIGURATION message.
47	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

RADIO BEARER RECONFIGURATION (Step 14)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1

~~.~~

PHYSICAL CHANNEL RECONFIGURATION (Step 25)

For PHYSICAL CHANNEL RECONFIGURATION in step 25, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	~~Current CFN-[current CFN mod 8 + 8]~~Not Present
Uplink DPCH info	
- Scrambling code number	2

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 36)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Incompatible simultaneous reconfiguration
~~Other information element~~	~~Not checked~~

8.2.6.13.5   Test requirement

After step 2 the UE shall transit from CELL DCH to CELL FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

~~After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.~~

After step ~~2~~ 5 the UE shall ~~keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall~~ transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step ~~4~~ 6 the UE shall transmit a ~~communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the~~ RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.6.14   Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.6.14.1   Definition

8.2.6.14.2   Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message which does not includes any IEs except IE "Message Type"~~containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. It shall then transmit a PHYSICAL CHANNEL

RECONFIGURATION FAILURE message, set "protocol error" in IE "failure cause" and also set " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". The UE shall keep existing configuration ~~before~~ upon reception of a PHYSICAL ~~TRANSPORT~~ CHANNEL RECONFIGURATION message, which ~~when the TRANSPORT CHANNEL RECONFIGURATION message~~ includes some IEs which are set to give an invalid ~~value~~configuration, and then the UE shall transmit PHYSICAL ~~TRANSPORT~~ CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration"

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.14.3   Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received message does not include any IEs except IE "Message Type" ~~uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~.

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 including some IEs which are set to give an invalid ~~value~~configuration.

8.2.6.14.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_~~FACH~~DCH (state 6-~~11~~10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in ~~the~~ CELL_~~FACH~~DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE which does not include any IEs except IE "Message Type" ~~comprises a defined value in the mandatory IE "UTRAN DRX cycle length coefficient"~~. 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 " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause". ~~The UE keeps initial configuration and~~ SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid ~~value~~configuration. The UE keeps current configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
14	←		PHYSICAL CHANNEL RECONFIGURATION	See specific message content.
25	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
36	←		PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which are set to give an invalid valueconfiguration.
47				The UE does not change the configuration
58	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 14)

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 with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range value.Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 25)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding errorInformation element value not comprehended
Other information element	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 36)

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" as found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
~~Uplink DPCH info~~	~~Not present~~

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step ~~5~~7)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Message Type~~	
Failure cause	Invalid configuration
~~Other information element~~	~~Not checked~~

8.2.6.14.5 Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step ~~1~~4 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 " ASN.1 violation or encoding error ~~Information element value not comprehended~~" in IE "Protocol error cause".

~~After step 3 the UE shall keep its old configuration.~~

After step ~~4~~7 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.6.15 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH ~~(Hard handover to another frequency)~~: Success

8.2.6.15.1 Definition

8.2.6.15.2 Conformance requirement

The UE shall correctly reconfigure a common physical channel in another cell according to a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_FACH in a current cell to CELL_FACH in the specified another cell. ~~when asked to perform a transition from CELL_FACH to CELL_FACH~~.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.15.3 Test purpose

To confirm that the UE reconfigures a new common physical channel in another cell according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.15.4 Method of test

Initial Condition

System Simulator: ~~1~~2 cells – Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.15

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

Table 8.2.6.15 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.15. The UE shall move to cell 2 and configure the common physical channel and~~then reconfigure the new physical channel according to this message and the system information messages. Following this, it shall~~ transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the ~~RACH~~DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.6.15.~~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_FACH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

8.2.6.15.5   Test requirement

After step ~~3~~ 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message in cell 2~~be in CELL_FACH state and continue to communicate with SS on the common physical channel~~.

8.2.6.16   Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: (Cell re-selection)

8.2.6.16.1   Definition

8.2.6.16.2   Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.~~.~~

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.16.3   Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after the UE completes a ~~cell reselection and~~ cell update procedure indicated by a PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.16.4   Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 ~~is~~ and 2 are active~~, Cell 2 is inactive~~.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.16

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH ~~RSCP~~Ec	dBm/ 3.84 MHz	~~-73~~60	~~-79~~75	~~switched off~~ 75	~~-73~~60

Table 8.2.6.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings ~~from~~ between columns "T0" ~~to~~ and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in ~~the~~ CELL_FACH state in cell 1. On transmitting a PHYSICAL CHANNEL RECONFIGURATION message, which does not include the IE"Primary CPICH info", the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.~~16.9~~16 ~~and broadcast BCCH on the primary CCPCH in cell 2~~. The UE shall initiate the cell update procedure and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	This message does not include IE "Primary CPICH info".
2				The UE shall detect a failure to transmission power settings, according to the values in columns "T1" of Table 8.2.6.16.
3	←		~~BCCH~~Void	~~The SS starts to broadcast BCCH on the primary CCPCH in cell2.~~
4	→		CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	~~This message include IE "new U-RNTI" and IE "new C-RNTI".~~
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use 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
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	Not Present~~150~~

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step ~~7~~4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.6.16.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

~~After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.~~

8.2.6.17 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (~~Hard handover~~ code modification~~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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

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: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message elapses~~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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"
1a				The SS set its Downlink DPCH scrambling code to "1".
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1. The IE "Secondary scrambling code" is set to "2".
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 as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info - Uplink DPCH info - Secondary scrambling code	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time - Uplink DPCH infoDL channelisation code - Secondary scrambling code	Not Present 2

8.2.6.17.5   Test requirement

After step 3 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

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_~~FACH~~ DCH (state 6-~~11~~10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in ~~the~~ CELL_~~FACH~~ DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the ~~UE~~ activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message~~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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
14	←		PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"
1a				The SS set its Downlink DPCH scrambling code to "1".
25	←		PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 14. The IE "Secondary scrambling code" is set to "2".
36	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 5 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 14.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION(Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 14)

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" as 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
- Uplink DPCH info	
- Secondary scrambling code	1

PHYSICAL CHANNEL RECONFIGURATION (Step 25)

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 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH infoDL channelisation code	
- Secondary scrambling code	•2

8.2.6.18.5   Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step ~~3~~ 5 the UE shall transmit a ~~communicate with the SS on the radio bearer specified in the~~ PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC ~~in step 1~~.

8.2.6.19   Physical Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.6.19.1   Definition

8.2.6.19.2   Conformance requirement

The UE shall transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~using~~ after it ~~and transits from CELL_DCH to CELL_PCH when~~ receives a PHYSICAL CHANNEL RECONFIGURATION message which invokes the UE to transit from CELL_DCH to CELL_PCH. And then, the UE shall enter CELL_PCH state ~~reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message~~.

Reference

3GPP TS 25.331 clause 8.2.~~2~~6

8.2.6.19.3   Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~before~~ and enter~~ing~~ CELL_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to CELL_PCH ~~and reconfigured its radio bearers. The UE is in CELL_PCH state in the same cell~~.

8.2.6.19.4   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, which invokes the UE to transit from CELL_DCH to CELL_PCH. The UE transmits a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" ~~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				The UE is in CELL_PCH state.~~Reconfiguration of Physical Channel after state transition.~~
4	←		PAGING TYPE 1	The SS transmits this message ~~included~~ with 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
RRC State Indicator	CELL_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (~~SMS~~ Packet in PS)" in default message content of TS 34.108 ~~Annex A~~ with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity Previously assigned S-RNTI

8.2.6.19.5   Test requirement

After step 1 the UE <u>shall</u> transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~to the UE~~ on ~~uplink~~ <u>the</u> DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

~~After step 3 the UE shall transit from CELL_DCH to CELL_PCH.~~

8.2.6.20   Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.6.20.1   Definition

8.2.6.20.2   Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message <u>after it</u>~~using and transits from CELL_DCH to URA_PCH when~~ receives a PHYSICAL CHANNEL RECONFIGURATION message<u>, which</u>

invokes the UE to transit from CELL_DCH to URA_PCH. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message and enter URA_PCH state.

Reference

3GPP TS 25.331 clause 8.2.~~2~~6

8.2.6.20.3   Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~before~~ and enter~~ing~~ URA_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to URA_PCH ~~and reconfigured its radio bearers. The UE is in CELL_PCH state~~.

8.2.6.20.4   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, which invoke the UE to transit from CELL_DCH to URA_PCH. The UE transmits a 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, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response". ~~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				The UE is in URA_PCH state. ~~Reconfiguration of Physical Channel after state transition.~~
4	←		PAGING TYPE 1	The SS transmits this message ~~included~~ with 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
RRC State Indicator	URA_PCH
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

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 Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.20.5   Test requirement

After step 1 the UE ~~shall~~ transmit~~s~~ a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message ~~to the UE~~ on ~~uplink~~ the DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

~~After step 3 the UE shall transit from CELL_DCH to URA_PCH.~~

8.2.6.21   Void

8.2.6.22   Void

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   Void

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 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 sends the correct uplink response 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~~ and 2 are active~~.~~, ~~with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1-1, while cell 2 is inactive~~

UE: ~~CS-CELL_FACH_Initial (state 6-2) or~~ PS-~~CELL~~DCCH+DTCH_FACH_~~Initial~~ (state 6-4<u>11</u>) in cell 1 as specified in clause 7.4 of TS 34.108~~, depending on the CN domain supported by the UE~~.

Test Procedure

Table 8.3.1.1-~~1~~

Parameter	Unit	Cell 1			Cell 2		
		T0	T1	~~T2~~	T0	T1	~~T2~~
UTRA RF Channel Number		Ch. 1			Ch. 1		
CPICH ~~RSCP~~Ec	dBm<mark>/3.84MHz</mark>	-~~73~~60	-~~79~~75	-73	~~Cell 2 is switched off~~-75	-~~73~~60	-79

Table 8.3.1.1-~~1~~ illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions~~, while columns marked "T1" and "T2" are to be applied subsequently~~. SS switches the power settings repeatedly between columns "T1" and "~~T2~~T0", whenever the description below specifies that the transmission power settings for cell 1 and cell 2 ~~are~~be reversed.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1. ~~1. SS starts to broadcast BCCH on the primary CCPCH in cell 2.~~ 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 "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. SS verifies that the UE does not send any response to this message. UE shall stay in CELL_FACH state. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1. ~~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 "RRC State Indicator" is set to "CELL_FACH" in this message. The UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. Following this, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1. ~~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 "Physical channel information elements". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the change in physical resources. Then, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1. ~~SS reverses the transmission power settings for cell 1 and cell 2 again.~~ The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains IE "Transport channel information elements". The UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message. Following this, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1. ~~SS reverses the transmission power settings for cell 1 and cell 2 again.~~ The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS replies with a CELL UPDATE CONFIRM message which contains IE "RB information to be affected list". The UE shall send RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1 ~~SS reverses the transmission power settings for cell 1 and cell 2 once again.~~ The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains IE "RB information to release list". The UE shall send RADIO BEARER RELEASE COMPLETE message. Finally, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1 ~~the SS reverses the transmission power settings for cell 1 and cell 2.~~ The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS shall not respond to this message but SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1 ~~reverses the transmission power settings for cell 1 and cell 2.~~ UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS shall then send CELL UPDATE CONFIRM message to UE.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state in cell 1
2	←		~~BCCH~~Void	SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.1. ~~1. The SS starts to broadcast BCCH on the primary CCPCH 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" shall be indicated in IE "Cell update cause"
4	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH". SS set k=0.
5				SS checks the uplink PRACH channel to verify that no response is sent by UE.
6				SS reverses the transmission power level of cell 1 and cell 2.

7	→	CELL UPDATE	
8	←	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH". If k ≥ 0, new C-RNTI and U-RNTI identities are assigned to the UE. If k>0, IE "Physical channel information elements" is included in this message. If k>1, IE "Transport channel information elements" is included in this message. If k>2, IE "RB information to be affected list" is included in this message. If k>~~5~~3, IE "RB information to release list" is included in this message. Increment k by 1.
9	→	UTRAN MOBILITY INFORMATION CONFIRM	If k=1 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
10	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	If k=2 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
11	→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	If k=3 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
12	→	RADIO BEARER RECONFIGURATION COMPLETE	If k=4 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
13	→	RADIO BEARER RELEASE COMPLETE	If k=5 when SS received this message, proceed to next step~~test ends~~. Else test fails. If this message is not received, test fails.
14			SS reverses the transmission power level of cell 1 and cell 2.
15	→	CELL UPDATE	
16			SS reverses the transmission power level of cell 1 and cell 2.
17	→	CELL UPDATE	
18	←	CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 3, 7, 15 and 17)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark

U-RNTI
  - SRNC Identity
  - S-RNTI
	Check to see if set to '0000 0000 0001'
	In step 3, check to see if set to '0000 0000 0000 0000 0001'. In step 7 and when k<1, check to see if set to '0000 0000 0000 0000 0001'. In step 7 and when k>0, check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 8. In step 15 and 17, check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 8.

Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 4 and 18)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_FACH

CELL UPDATE CONFIRM (Step 8 and k = 0)

Use the same message sub-type found in step 4, with the following exceptions:

Information Element	Value/remark

New U-RNTI
  - SRNC Identity
  - S-RNTI
 	
New C-RNTI
	
	'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 assigned in RRC connection establishment procedure.

CELL UPDATE CONFIRM (Step 8 and k=1)

Use the same message sub-type found in step 8 and k=0, with the following exceptions:

Information Element	Value/remark
Maximum allowed uplink TX power	3 dB below the follow value: Minimum of {-33 dBm, maximum uplink power allowed under the UE power class-}

CELL UPDATE CONFIRM (Step 8 and k=2)

Use the same message sub-type found in step 8 and k=1, with the following exceptions:

Information Element	Value/remark
Added or Reconfigured uplink TrCH information	Same as the system information block type 5
Added or Reconfigured downlink TrCH information	Same as the system information block type 5
~~-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~~

Information Element	Value/remark
~~- CRC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

CELL UPDATE CONFIRM (Step 8 and k=3)

Use the same message sub-type found in step 8 and k=2, with the following exceptions:

Information Element	Value/remark
RB information to be ~~affected~~reconfigure	~~(UM DCCH for RRC)~~
- RB identity	~~1~~20
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Not Present
- RB mapping info	Not Present ~~1~~
- RB stop/continue	~~RACH~~Stop
~~- RB mapping info~~	~~Not Present~~
~~- Information for each multiplexing option~~	~~1~~
~~- RLC logical channel mapping indicator~~	~~Explicit list~~
~~- Number of uplink RLC logical channels~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Uplink transport channel type~~	~~2~~
~~- UL Transport channel identity~~	
~~- Logical channel identity~~	~~1~~
~~- CHOICE RLC size list~~	~~FACH~~
~~- RLC size index~~	~~Not Present~~
~~- MAC logical channel priority~~	~~Not Present~~
~~- Downlink RLC logical channel info~~	~~1~~
~~- Number of downlink RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- DL DCH Transport channel identity~~	
~~- DL DSCH Transport channel identity~~	
~~- Logical channel identity~~	

CELL UPDATE CONFIRM (Step 8 and k=4)

Use the same message sub-type found in step 8 and k=3, with the following exceptions:

Information Element	Value/remark
RB information to release	
-RB identity	4

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 6 the UE shall sent a CELL UPDATE message to the cell with stronger transmitting power, in order to indicate that a cell reselection has taken place.

After step 8, if k=1, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message to acknowledge that it has started to use the new RNTI identities allocated.

If k=2, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new physical channel assigned.

If k=3, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the transport channels.

If k=4, the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the radio bearers.

If k=5, the UE shall transmit a RADIO BEARER RELEASE COMPLETE message to acknowledge that it has release its radio bearers.

After step 14 the UE shall ~~sent~~ transmit a CELL UPDATE message to the cell with stronger transmitting power, in order to indicate that a cell reselection has taken place.

After step 16 the UE shall transmit a ~~sent~~ CELL UPDATE message to the cell with stronger transmitting power, in order to indicate that a cell reselection has taken place.

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~~ and 2 are active. ~~with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1-1, while cell 2 is inactive~~

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108 ~~, depending on the CN domain(s) supported by the UE~~.

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 CCPCH in cell 2.~~ SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1 ~~-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, SS replies with a CELL UPDATE CONFIRM message with the IE "RRC State Indicator" set to "CELL_PCH". After receiving this message, the UE returns to CELL_PCH state without transmitting any uplink message. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response". SS shall respond with a CELL UPDATE CONFIRM message. ~~Next, 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 CCCH of cell 1. SS then sends CELL UPDATE CONFIRM message with the assignment of new C-RNTI and U-RNTI identities. The UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message as a response. 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 on the uplink CCCH of cell 2 and stating the cause as 'cell re-selection'. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the change in physical resources. Then, SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements" and "Transport channel information elements". The UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message. Following this, SS reverses~~

~~the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements", "Transport channel information elements" and IE "RB information to be affected list". The UE shall send RADIO BEARER RECONFIGURATION COMPLETE message. Finally, SS reverses the transmission power settings for cell 1 and cell 2 once again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements", "Transport channel information elements", IE "RB information to reconfigure list" and IE "RB information to release list". The UE shall send RADIO BEARER RELEASE COMPLETE message.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state in cell 1
2	←		~~BCCH~~Void	~~The SS starts to broadcast system information message on BCCH on the primary CCPCH from cell 2.~~ SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.1.~~SS reverse the transmission level of cell 2 and 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	IE "RRC State Indicator" is set to "CELL_PCH". ~~SS set k=0.~~
5				~~SS swaps the transmission power of cell 1 and cell 2, making cell 1 the stronger cell.~~The UE is in CELL_PCH state.
6	~~←~~→		~~CELL UPDATE~~PAGING TYPE 1	~~UE move from CELL_PCH to CELL_FACH to transmit this message.~~The SS transmits thos message with a matched identity.
7	→~~←~~		CELL UPDATE ~~CONFIRM~~	~~IE "RRC State Indicator" is set to "CELL_PCH". If k ≥ 0, new C-RNTI and U-RNTI identities are assigned to the UE. If k>0, IE "Physical channel information elements" is included in this message. If k>1, IE "Transport channel information elements" is included in this message. If k>2, IE "RB information to be affected list" is included in this message. If k>3, IE "RB information to release list" is included in this message. Increment k by 1.~~The UE is in CELL_FACH state
8	→~~←~~		~~UTRAN MOBILITY INFORMATION CONFIRM~~CELL UPDATE CONFIRM	~~If k=1 when SS received this message, go to step 5. Else test fails. If this message is not received, proceed to next step.~~
~~9~~	→		~~PHYSICAL CHANNEL RECONFIGURATION COMPLETE~~	~~If k=2 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.~~
10~~8~~	→		~~TRANSPORT CHANNEL RECONFIGURATION COMPLETE~~	~~If k=3 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.~~
~~11~~	→		~~RADIO BEARER RECONFIGURATION COMPLETE~~	~~If k=4 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.~~

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12	→	~~RADIO BEARER RELEASE COMPLETE~~	~~If k=5 when SS received this message, test ends. Else test fails. If this message is not received, test fails.~~

Specific Message Contents

CELL UPDATE (Steps 3 and ~~6~~7)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:~~Use the same message sub-type found in Annex A, with the following exception.~~

Information Element	Value/remark

U-RNTI
  - SRNC Identity
  - S-RNTI
	
	Check to see if set to '0000 0000 0001'
	Check to see if set to '0000 0000 0000 0000 0001' ~~when k<1 or when in step 3. Check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 7 when k>0.~~
	
	Check to see if set to 'Cell Re-selection' when in step 3 .

Cell Update Cause	Check to see if set to "paging response" when in step 7.

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

~~CELL UPDATE CONFIRM (Step 7 and k=0)~~

~~Use the same message sub-type found in step 4, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~New U-RNTI~~ ~~ - SRNC Identity~~ ~~ - S-RNTI~~ ~~New C-RNTI~~	 ~~'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.~~

~~CELL UPDATE CONFIRM (Step 7 and k=1)~~

~~Use the same message sub-type found in step 7 with k=0, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~Maximum allowed uplink TX power~~	~~3 dB below the follow value:~~ ~~Minimum of { 33 dBm, maximum uplink power allowed under the UE power class }~~

~~CELL UPDATE CONFIRM (Step 7 and k=2)~~

~~Use the same message sub-type found in step 7 with k=1, with the following exceptions:~~

Information Element	Value/remark
Added or Reconfigured uplink 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

CELL UPDATE CONFIRM (Step 7 and k=3)

Use the same message sub-type found in step 7 with k=2, with the following exceptions:

Information Element	Value/remark
RB information to be affected	(UM DCCH for RRC)
-RB identity	1
-RB mapping info	
-Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
-Number of uplink RLC logical channels	1
-Uplink transport channel type	RACH
-UL Transport channel identity	Not Present
-Logical channel identity	1
-CHOICE RLC size list	Explicit
- RLCsize index	Reference to TS34.108 clause 6.10 Parameter Set
-MAC logical channel priority	2
- Downlink RLC logical channel info	
-Number of downlink RLC logical channels	1
-Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
-Logical channel identity	1

CELL UPDATE CONFIRM (Step 7 and k=4)

Use the same message sub-type found in step 7 with k=3, with the following exceptions:

Information Element	Value/remark
RB information to release	
-RB identity	4

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 6 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 5 the UE shall reselect to stronger transmitting cell and transmit a CELL UPDATE message, containing the IE "Cell update cause" set to "cell reselection".

After step 7, if k=1, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

If k=2, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

~~If k=3, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the transport channels.~~

~~If k=4, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the radio bearers.~~

~~If k=5, the UE shall transmit RADIO BEARER RELEASE COMPLETE message to acknowledge that it has release its radio bearers.~~

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 periodical 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~~ 2 cells – Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~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

Table 8.3.1.3

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

Table 8.3.1.3 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

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 periodical cell updating. SS replies with a CELL UPDATE CONFIRM message, and IE "RRC State Indicator" is set to "CELL_FACH". 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 UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. Next, ~~the content of the SYSTEM~~

INFORMATION BLOCK TYPE 1 is changed to disable periodic cell updating~~SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "infinity", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.3, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM. SS then monitors the uplink CCCH 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 transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to '5', to UE~~changes the timer T305 value to 5 minutes. SS transmits SYSTEM INFORMATION CHANGE INDICATION message to inform UE of the modification of system information~~. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.3, causing the UE to enter CELL_FACH state in cell 1 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM.UE shall resume periodic cell updating procedure and transmit CELL_UPDATE message ~~5 minutes~~ after ~~this modification~~T305 (5 minutes) expires.

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 "periodical 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	Set to "periodical cell update" in IE "Cell update cause" upon the expiry of timer T305.
6	←		CELL UPDATE CONFIRM	Including IEs "new C-RNTI"-, "new U-RNTI" and IE "RRC State Indicator" is set to "CELL_FACH"
7	→		UTRAN MOBILITY INFORMATION CONFIRM	

8	←	UTRAN MOBILITY INFORMATION	IE "T305" is set to 'infintiy'.
9	→	UTRAN MOBILITY INFORMATION CONFIRM	
10			SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.3
11	→	CELL UPDATE	IE "Cell update cause" shall be set to "cell reselection".
12	←	CELL UPDATE CONFIRM	
8 13	←	~~MASTER INFORMATION BLOCK~~ ~~SYSTEM INFORMATION BLOCK TYPE 1~~	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.
14	←	UTRAN MOBILITY INFORMATION	IE "T305" is set to '5.
15	→	UTRAN MOBILITY INFORMATION CONFIRM	
9 16	←	~~SYSTEM INFORMATION CHANGE~~ ~~INDICATION~~	SS applies the downlink transmission power settings, according to the values in columns "T0" of Table 8.3.1.3
10 17	→ ←	CELL UPDATE~~MASTER INFORMATION~~ ~~BLOCK~~ ~~SYSTEM INFORMATION BLOCK TYPE 1~~	IE "Cell update cause" shall be set to "cell reselection".~~SS~~ ~~modified the contents of~~ ~~MASTER INFORMATION~~ ~~BLOCK and SYSTEM~~ ~~INFORMATION BLOCK (see~~
11 18	← ←	CELL UPDATE CONFIRM~~SYSTEM~~ ~~INFORMATION CHANGE INDICATION~~	
12 19	→	CELL UPDATE	UE shall transmit this message ~~5 minutes after step~~ ~~9,~~ with "cell update cause" set to "periodical cell updating" after T305 expires.
13 20	←	CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2 and 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 'periodical cell updating'

CELL UPDATE (Step 11 and 17)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 same bit string as in IE "S-RNTI" in IE "U-RNTI" of the CELL UPDATE CONFIRM message sent in step 6.
	Check to see if set to "cell reselection"

CELL UPDATE CONFIRM (Step 3, 12, 18 and 20)

Use the same message sub-type found in Annex A.

CELL UPDATE CONFIRM (Step 6 ~~and 11~~)

Use the same message sub-type found in 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 ~~12~~19)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 same bit string as in IE "S-RNTI" in IE "U-RNTI" of the CELL UPDATE CONFIRM message sent in step 6.
	Check to see if set to 'periodical cell updating'

~~MASTER INFORMATION BLOCK~~UTRAN MOBILITY INFORMATION (Step 8)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
~~MIB Tag~~New U-RNTI	~~2~~Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
- T305	infinity

UTRAN MOBILITY INFORMATION (Step 14)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
- T305	5

~~SYSTEM INFORMATION BLOCK TYPE 1 (Step 8)~~

~~Information Element~~	~~Value/remark~~
~~UE Timers and constants in connected mode~~	
~~T305~~	~~Infinity~~

SYSTEM INFORMATION CHANGE INDICATION (Step 9)

Information Element	Value/remark
BCCH modification info MIB Value tag	2

MASTER INFORMATION BLOCK (Step 9)

Information Element	Value/remark
MIB Tag	1

SYSTEM INFORMATION BLOCK TYPE 1 (Step 9)

Information Element	Value/remark
UE Timers and constants in connected mode T305	5 minutes

SYSTEM INFORMATION CHANGE INDICATION (Step 11)

Information Element	Value/remark
BCCH modification info MIB Value tag	1

8.3.1.3.5   Test requirement

After step 1 the UE shall detect the expiry of timer T305 and then transmits a CELL UPDATE message setting value "periodical 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 a CELL UPDATE message, specifying the cell updating cause to be "periodical cell update".

After step 6 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Between step 8 and step 9 the UE shall cease periodic cell updating activity and not transmit any CELL UPDATE messages.

After step 8, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 10, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

Between step 12 and 14, the UE shall not transmit any CELL UPDATE message.

After step 14, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 16, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 18, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "periodical cell update" on the uplink CCCH.

After step 11 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the UE has re-read the modified system information.

8.3.1.4   Cell Update: periodical cell update in CELL_PCH ~~and multiple cell update causes~~

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~~ 2 cells – Cell 1 and 2 are active.

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

Table 8.3.1.4

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

Table 8.3.1.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

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 "periodical cell update" into IE "Cell update cause". SS answers with a CELL UPDATE CONFIRM message~~, with IE "RRC State Indicator" set to "CELL_PCH" and includes the IEs "new C-RNTI" and "new U-RNTI"~~. SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "infinity", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM with IE "RRC state indicator" set to "CELL_PCH". Then UE shall enter CELL_PCH state.~~Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and before entering CELL_PCH state. Next, the content of the SYSTEM INFORMATION BLOCK TYPE 1 is changed to disable periodical cell updating.~~ SS then monitors the uplink CCCH for a period up to the maximum possible value for timer T305 (720minutes) and verifies that no CELL_UPDATE message is received. SS then configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 1 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM. Next, SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "5", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM with IE "RRC state indicator" set to "CELL_PCH". Then UE shall enter CELL_PCH state. ~~After this, the SS changes the timer T305 value to 5 minutes. SS shall inform UE about the change in system information using PAGING TYPE 1. UE shall read the new system information. UE shall resume periodical cell updating procedure and transmit CELL_UPDATE message 5 minutes after UE has re-read the modified system information. Next, the SS pages for the UE. UE shall send CELL UPDATE message with IE "cell update cause" set to "paging response". SS shall not respond to this message and wait till UE's timer T305 expires.~~ After T305 expires, UE shall transmit CELL UPDATE message with IE "cell update cause" set to "periodical cell update". SS shall ~~sent~~transmit CELL UPDATE CONFIRM message to end the procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state. SS waits until T305 has expired. Wait for CELL UPDATE message and then verify that the time of arrival of this message is in the range of T305 value +/- 10 % after it entered CELL_PCH state
2	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "-Cell update cause" set to "periodical cell update".
3	←		CELL UPDATE CONFIRM	~~New C-RNTI and U-RNTI identities are assigned.~~
4	←→		UTRAN MOBILITY INFORMATION CONFIRM	IE "T305" is set to 'infintiy'.~~UE moves back to CELL_PCH after transmitting this message.~~
5	→		UTRAN MOBILITY INFORMATION CONFIRM	
6				SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.4.
7	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection".

Step	Direction		Message	Comment
	UE	SS		
8	←		CELL UPDATE CONFIRM	UE enters CELL_PCH state after transmitting this message.
5~~9~~	←		~~MASTER INFORMATION BLOCK~~ SYSTEM INFORMATION BLOCK TYPE 1	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.
10				SS applies the downlink transmission power settings, according to the values in columns "T0" of Table 8.3.1.4.
11	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection".
12	←		CELL UPDATE CONFIRM	
13	←		UTRAN MOBILITY INFORMATION	IE "T305" is set to '5'.
14	→		UTRAN MOBILITY INFORMATION CONFIRM	
15				SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.4.
16	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection".
17	←		CELL UPDATE CONFIRM	UE enters CELL_PCH state after transmitting this message.
~~6~~	←		~~MASTER INFORMATION BLOCK~~ ~~SYSTEM INFORMATION BLOCK TYPE 1~~	~~SS modified the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents) again.~~
~~7~~	←		~~PAGING TYPE 1~~	~~Include IE "BCCH modification info"~~
~~8~~	→		~~CELL UPDATE~~	~~UE shall transmit this message 5 minutes after step 12, with "cell update cause" set to "periodical cell updating"~~
~~9~~	←		~~CELL UPDATE CONFIRM~~	
~~10~~	←		~~PAGING TYPE 1~~	~~SS pages the UE.~~
~~11~~	→		~~CELL UPDATE~~	~~IE "Cell update cause" shall be set to "paging response".~~
~~12~~18				SS wait for T305 timer to expire
~~13~~19	→		CELL UPDATE	IE "Cell update cause" shall be set to "periodical cell update".
~~14~~20	←		CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2 and 19)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 'periodical cell updating'

~~CELL UPDATE (Step 8 and 13)~~

~~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 1010'~~
	~~Check to see if set to 'periodical cell updating'~~

CELL UPDATE (Step ~~11~~7, 11 and 16)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 ~~1010~~'0001'
	Check to see if set to ~~'paging response'~~"cell reselection"

~~CELL UPDATE CONFIRM (Step 9 and 14)~~

~~Use the same message sub-type found in Annex A, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~RRC state indicator~~	~~CELL_PCH~~

CELL UPDATE CONFIRM (Step 3, 12 and 20)

Use the same message sub-type found in Annex A~~, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~

~~New U-RNTI~~
  ~~- SRNC Identity~~
  ~~- S-RNTI~~
~~New C-RNTI~~
	
	~~Set to '0000 0000 0001'~~
	~~Set to '0000 0000 0000 0000 1010'~~
	~~Set to '0000 0000 0000 0101'~~

. CELL UPDATE CONFIRM (Step 8 and 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC state indicator	CELL_PCH

PAGING TYPE 1 (Step 6)

Same as in Annex A, with the following exception:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
- MIB Value tag	2
- BCCH modification time	Not present

PAGING TYPE 1 (Step 10)

Information Element	Value/remark
CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 1010'

UTRAN MOBILITY INFORMATION (Step 4 and 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
- T305	Set to 'infinity' in step 4 and '5' in step 13

MASTER INFORMATION BLOCK (Step 5)

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 1 (Step 5)

Information Element	Value/remark
UE Timers and constants in connected mode	
T305	Infinity

MASTER INFORMATION BLOCK (Step 6)

Information Element	Value/remark
MIB Tag	1

SYSTEM INFORMATION BLOCK TYPE 1 (Step 6)

Information Element	Value/remark
UE Timers and constants in connected mode	
T305	5 minutes

8.3.1.4.5   Test requirement

After step 1 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 "periodical cell update".

After step 4, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

~~Between step 11 and step 12 14~~After step 8 and before step 10, the UE shall ~~cease periodic cell updating activity and~~ not transmit any CELL UPDATE messages.

After step 10, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 13, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 15, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

~~After step 7 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the UE has re-read the modified system information.~~

~~After step 10 the UE shall transmit a CELL UPDATE message stating the cell update cause to be paging response.~~

After step ~~12~~ 18 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating.

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 uplink 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 uplink 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: ~~CS CELL_FACH_Initial (state 6-2) or~~ PS ~~CELL~~DCCH+DTCH _FACH ~~Initial~~ (state 6-4 11) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

SS sends a MEASUREMENT CONTROL message to trigger UE to measure the CPICH RSCP in a intra frequecny measurement and to report periodically by the MEASUREMENT REPORT message using UM RLC. UE shall send MEASUREMENT REPORT message to SS using ~~AM~~ UM RLC on DCCH. ~~SS do not send AM PDU back to UE.~~ SS then transmit a RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "URA_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state. UE shall detect that the periodical timer for measurement reporting has elapsed ~~SS has not acknowledge the last MEASUREMENT REPORT message~~ and attempt to ~~re~~ transmit a MEASUREMENT REPORT message ~~it~~. 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 "uplink data transmission". After receiving such a message, SS transmits CELL UPDATE

CONFIRM message ~~without specifying IE "new C-RNTI" or IE "new U-RNTI" or "CN information elements" or "Physical channel information elements" or "Transport channel information elements" or RB information elements".~~ The UE shall stay in CELL_FACH state and transmit MEASUREMENT REPORT message using ~~AM~~ UM RLC on DCCH. ~~SS shall acknowledge this message and then sends a RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "URA_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state. The UE is triggered to initiate a PS or CS call (depending on CN domain supported by the UE). The UE shall send CELL UPDATE message once more. After the SS receives this message, it replies with a CELL UPDATE CONFIRM message including "Physical channel information elements". The IE "RRC State Indicator" is set to "CELL_FACH" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. Then the UE shall enter CELL_FACH state and proceed with the NAS signalling required for CS or PS connection establishment. Finally, the RRC connection is released.~~

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				The UE is brought to CELL_FACH state.
2	←		MEASUREMENT CONTROL	
3	→		MEASUREMENT REPORT	~~SS do not send AM PDU to acknowledge the RLC PDUs carrying this message (abnormal behaviour of SS's RLC entity).~~
4	←		RADIO BEARER RELEASE	IE "RRC State Indicator" set to "URA_PCH"
5	→		RADIO BEARER RELEASE COMPLETE	UE moves to URA_PCH state.
6	→		CELL UPDATE	The UE shall move to CELL FACH state with the message set to "uplink data transmission" in IE "Cell update cause".
7	←		CELL UPDATE CONFIRM	Use default message content.
8	→		MEASUREMENT REPORT	~~SS shall acknowledge the RLC PDUs carrying this message (normal behaviour).~~
~~9~~	~~←~~		~~RADIO BEARER RELEASE~~	~~IE "RRC State Indicator" set to "URA_PCH"~~
~~10~~	~~→~~		~~RADIO BEARER RELEASE COMPLETE~~	~~UE moves to URA_PCH state.~~
~~11~~				~~UE is triggered to initiate a PS or CS call.~~
~~12~~	~~→~~		~~CELL UPDATE~~	~~Cell update cause is "uplink data transmission".~~
~~13~~	~~←~~		~~CELL UPDATE CONFIRM~~	~~Including "Physical channel information elements".~~
~~14~~	~~→~~		~~PHYSICAL CHANNEL RECONFIGURATION COMPLETE~~	
~~15a~~	~~←→~~		~~Set up prodecure for originating circuit switched calls~~	~~Execute P8 followed by P12 as specified in clause 7.4 of TS 34.108.~~
~~15b~~	~~←→~~		~~Set up prodecure for originating packet switched calls~~	~~Execute P10 followed by P14 as specified in clause 7.4 of TS 34.108~~
~~16~~	~~←~~		~~RRC CONNECTION RELEASE~~	

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in Annex A. with the following exceptions:

Information Element	Value/remark

Measurement Reporting Mode
    - Measurement Report Transfer Mode
    - Measurement Reporting/Event Trigger Reporting
      Mode
	Unacknowledged mode RLC
	Periodical

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
RB information to release list	
- RB identity	320 or 21 (for radio access bearer)
RB information to be affected list	Not Present
UL Transport channel information common for all transport channel	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
DL Transport channel information common for all transport channel	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
CHOICE channel requirement	Not Present
Downlink information per radio link list	Not Present

CELL UPDATE (Step 6 and 12)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 1111'0001'
	Check to see if set to 'uplink data transmission'

CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in Annex A.

CELL UPDATE CONFIRM (Step 13)

Use the same message sub-type found in step 3, with the following exceptions:

Information Element	Value/remark
Maximum allowed uplink TX power	3 dB below the follow value: Minimum of { 33 dBm, maximum uplink power allowed under the UE power class }

RADIO BEARER RELEASE (Step 9)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
~~RRC State Indicator~~	~~URA_PCH~~
~~RB information to release list~~	
~~- RB identity~~	~~4~~
~~RB information to be affected list~~	~~Not Present~~
~~UL Transport channel information common for all transport channel~~	~~Not Present~~
~~Deleted TrCH information list~~	~~Not Present~~
~~Added or Reconfigured UL TrCH information list~~	~~Not Present~~
~~DL Transport channel information common for all transport channel~~	~~Not Present~~
~~Deleted TrCH information list~~	~~Not Present~~
~~Added or Reconfigured UL TrCH information list~~	~~Not Present~~
~~CHOICE channel requirement~~	~~Not Present~~
~~Downlink information per radio link list~~	~~Not Present~~

MEASUREMENT REPORT (Step 3 and 8)

Only the message type IE in this message will be checked.

RADIO BEARER RELEASE COMPLETE (Step 5 ~~and 10~~)

Only the message type IE in this message will be checked.

~~PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 11)~~

~~Only the message type IE in this message will be checked.~~

8.3.1.5.5 Test requirement

After step 2, UE shall transmit a MEASUREMENT REPORT message to SS using ~~AM~~ UM RLC on DCCH when 64 seconds has elapsed since the acknowledgement of MEASUREMENT CONTROL message.

After step 4, UE shall transmit a RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state.

~~Then~~ After step 5, the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL UPDATE message which is set to "uplink data transmission" in IE "Cell update cause".

After step 7, UE shall transmit MEASUREMENT REPORT message to SS using AM RLC on DCCH.

~~After step 9, UE shall transmit RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state.~~

~~After step 11 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 "uplink data transmission".~~

~~After step 13 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.~~

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 uplink 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 uplink data if the UE is in CELL_PCH state. ~~To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message.~~

8.3.1.6.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~CELL_PCH (state 6-12)~~ as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is in the CELL_ ~~PCH~~ FACH state. SS sends a MEASUREMENT CONTROL message to trigger UE to measure the CPICH RSCP in a intra frequeenncy measurement and to report periodically by the MEASUREMENT REPORT message using UM RLC. UE shall send a MEASUREMENT REPORT message to SS using UM RLC on DCCH. SS then transmits a RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "CELL_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to CELL_PCH state. UE shall detect that the periodical timer for measurement reporting has elapsed and attempt to transmit a MEASUREMENT REPORT message. 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 "uplink data transmission". After receiving such a message, SS transmits a CELL UPDATE CONFIRM message The UE shall stay in CELL_FACH state and transmit a MEASUREMENT REPORT message using UM RLC on DCCH. ~~The UE is triggered to initiate a CS or PS call (depending on CN domain supported by the UE). The UE moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, which shall indicate "uplink data transmission" in IE "Cell update cause". 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 UTRAN MOBILITY INFORMATION CONFIRM message and remains in CELL_FACH state. SS and UE complete PS or CS call establishment.Then SS send RRC CONNECTION RELEASE message to end the test.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state. ~~The UE is in the CELL_PCH state. The UE is triggered to attempt a PS or CS call depending on UE capabilities.~~
2	←		MEASUREMENT CONTROL	
3	→		MEASUREMENT REPORT	
4	←		RADIO BEARER RELEASE	IE "RRC State Indicator" set to "CELL_PCH"
5	→		RADIO BEARER RELEASE COMPLETE	UE moves to CELL_PCH state.
2~~6~~		→	CELL UPDATE	The UE moves to CELL FACH state and transmit this message which is set to "uplink data transmission" in IE "Cell update cause".
3~~7~~		←	CELL UPDATE CONFIRM	Use default message content ~~Including the IE "new C-RNTI".~~
4~~8~~		→	MEASUREMENT REPORT~~UTRAN MOBILITY INFORMATION CONFIRM~~	
~~5a~~			~~Set up prodecure for originating circuit switched calls~~	~~Execute P8 followed by P12 as specified in clause 7.4 of TS 34.108.~~
~~5b~~		~~<->~~	~~Completion of NAS signalling for PS connection establishment~~	~~If PS call has been triggered~~
~~6~~		~~←~~	~~RRC CONNECTION RELEASE~~	

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in Annex A with the following exceptions:

Information Element	Value/remark

Measurement Reporting Mode
    - Measurement Report Transfer Mode
    - Measurement Reporting/Event Trigger Reporting Mode
	
	Unacknowledged mode RLC
	Periodical

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
RB information to release list	
- RB identity	20 or 21 (for radio access bearer)
RB information to be affected list	Not Present
UL Transport channel information common for all transport channel	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
DL Transport channel information common for all transport channel	Not Present
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
CHOICE channel requirement	Not Present
Downlink information per radio link list	Not Present

CELL UPDATE (Step 26)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 1111'0001'
Cell Update Cause	Check to see if set to 'uplink data transmission'

CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in Annex A.

~~CELL UPDATE CONFIRM (Step3)~~

~~Use the same message sub-type found in Annex A, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~New C-RNTI~~	~~'0000 0000 1111 0000'~~

~~UTRAN MOBILITY INFORMATION CONFIRM (Step 4)~~

~~Only the message type IE in this message will be checked.~~

MEASUREMENT REPORT (Step 3 and 8)

Only the message type IE in this message will be checked.

RADIO BEARER RELEASE COMPLETE (Step 5)

Only the message type IE in this message will be checked.

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 "uplink data transmission" in IE "Cell update cause".~~

~~After step 3 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.~~After step 2, UE shall transmit a MEASUREMENT REPORT message to SS using UM RLC on DCCH when 64 seconds has elapsed since the acknowledgement of MEASUREMENT CONTROL message.

After step 4, UE shall transmit a RADIO BEARER RELEASE COMPLETE message and move to CELL_PCH state.

After step 5, the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL UPDATE message which is set to "uplink data transmission" in IE "Cell update cause".

After step 7, UE shall transmit a MEASUREMENT REPORT message to SS using UM RLC on DCCH.

8.3.1.7   VOID

8.3.1.8   VOID

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: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4)~~ as specified in clause 7.4 of TS 34.108~~, depending on the CN domain supported by the UE~~.

Test Procedure

Table 8.3.1.9

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80

Table 8.3.1.9 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in the CELL_FACH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 so that S<0. ~~SS decreases the transmission power of cell 1 until the cell selection parameter S<0.~~ 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, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9 so that S>0. ~~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". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message with the IE "RRC State Indicator" set "CELL_PCH" on the downlink DCCH. The UE shall enter CELL_PCH state. <u>SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 so that S<0.</u>~~SS decreases the transmission power of cell 1 until the cell selection parameter S<0.~~ 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, <u>SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9 so that S>0.</u> ~~the SS restores the transmission power of cell 1.~~ The UE shall find that it is back in service area, move to CELL_FACH 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". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message on the downlink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1.
1a	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b	←		SYSTEM INFORMATION CHANGE INDICATION	
2				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 ~~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 configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9 ~~SS restores cell 1's original power level before T307 timer expires.~~
5	→		CELL UPDATE	The value "re-entered service area" shall be found in IE "Cell update cause" in this message
6	←		CELL UPDATE CONFIRM	"RRC State Indicator" is set to "CELL_PCH"
7				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 ~~SS decreases the transmission power of cell 1~~ so that its S value falls below 0 and waits until T305 has expired.
8				SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9 ~~SS restores cell 1's original power level before T307 timer expires.~~
9	→		CELL UPDATE	UE shall move to CELL_FACH. It shall transmit this message with cell update cause set to "re-entered service area"
10	←		CELL UPDATE CONFIRM	

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type	
BCCH modification info	
MIB Value tag	2

CELL UPDATE (Step 5 and 9)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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~~'0001'
Cell Update Cause	Check to see if set to 're-entered service area'

CELL UPDATE CONFIRM (Step 6 and 10)

Use the same message sub-type found in Annex A, with the following exception.

Information Element	Value/remark
RRC State Indicator	CELL_PCH

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".

After step 8 the UE shall move to CELL_FACH and then transmit a CELL UPDATE message, with the IE "Cell Update Cause" set to "re-entered service area".

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: PS-DCCH+DTCH_FACH (state 6-11) ~~CELL_PCH (state 6-12)~~ as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

Table 8.3.1.10

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80

Table 8.3.1.10 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_ ~~PCH~~ FACH state at the start of the test. Before the expiry of periodic cell updating timer T305, the content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.10 so that S<0. ~~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 any CELL UPDATE message on the uplink DCCH, instead it triggers timer T307 and T305. After the expiry of timer T307 and SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.10 so that S>0, 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~~E~~ identity, and the UE ~~does not~~shall respond to the ~~page~~message. ~~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. Next, SS pages UE to request UE to establish RRC connection. UE shall be brought to CELL_FACH state. Then before the expiry of timer T305, SS decrease downlink transmission power such that cell criteria S <0. Upon the expiry of T305, UE discovers that it is in "out of service area" condition and therefore triggers T307. Upon expiry of T307, UE move to idle state. SS send PAGING TYPE 1 message to UE with IE "CHOICE Used paging identity" set to "UTRAN identity" and the UE shall not respond. Finally, SS pages for UE using PAGING TYPE 2 message sent on downlink DCCH and UE shall not respond. The UE is paged with CN domain identity (TMSI or P-TMSI) to verify that it returned to idle mode.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_ ~~PCH~~ FACH state.
1a	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b	←		SYSTEM INFORMATION CHANGE INDICATION	
2				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.10 so that ~~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. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.10 so that the cell is suitable for camping.
4	←		PAGING TYPE 1	SS pages the UE at its assigned paging occasion using the allocated U- ~~RNTI~~ E ~~value~~ identity.
5	→		RRC CONNECTION REQUEST	The UE shall ~~not~~ respond to this page as it has already entered the idle mode. ~~This is verified for 10 s.~~
~~6~~	~~←~~		~~PAGING TYPE 2~~	~~SS pages the UE on the downlink DCCH. The UE shall not respond to this page.~~
~~7~~				~~The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.~~
~~8~~	~~↔~~		~~RRC and NAS signalling~~	~~The UE is brought to CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) using P3 or P4 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. In step 1 of P3 or P4, SS pages UE with CN domain identity to verify that it is in Idle Mode~~

Step	Direction		Message	Comment
	UE	SS		
9				~~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.~~
10				~~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.~~
11	←		~~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.~~
12				~~The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.~~
13	←		~~PAGING TYPE 2~~	~~SS pages the UE on the downlink DCCH. The UE shall not respond to this page.~~
14				~~The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.~~
15	←		~~PAGING TYPE 1~~	~~Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.~~
16	→		~~RRC CONNECTION REQUEST~~	
17	←		~~RRC CONNECTION REJECT~~	

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type	
BCCH modification info	
MIB Value tag	2

PAGING TYPE 1 (Step 4 ~~and 11~~)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same IMSI value stored in the TEST USIM card.
~~Page record list~~	
~~- Paging record~~	
~~- CHOICE Used paging identity~~	~~UTRAN identity~~
~~- 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'~~

~~PAGING TYPE 2 (Step 6 and 13)~~

~~Information Element~~	~~Value/remark~~
~~Paging cause~~	~~Set to a cause corresponding to one radio access bearer services supported by the UE.~~
~~CN domain identity~~	~~CS-Domain~~
~~Paging Record Type Identifier~~	~~IMSI~~

8.3.1.10.5   Test requirement

After step ~~3~~4 the UE shall <u>transmit a RRC CONNECTION REQUEST message to respond to a PAGING TYPE 1 message.r</u>~~emain in the idle mode and not respond to the paging message sent on PCCH as well as~~

~~paging message addressed to it on the DCCH~~.

~~After step 10 the UE shall remain in the idle mode and not respond to the paging message sent on PCCH as well as~~

~~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~~before T302 timer expires.

8.3.1.11.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~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

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 "periodical 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 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 waits until the expiry of T305 timer.
2	→		CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause"~~ after the expiry of timer T305 or timer T302~~.
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 equal 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 "RRC State Indicator" is set to "CELL_FACH".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Periodic cell updating'

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in 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 "periodical 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 of CELL UPDATE message shall be detected in SS.

After step 5 the UE shall transmit an 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 upon 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: PS-DCCH+DTCH_FACH (state 6-11)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 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) attempts of retransmission, the UE shall return to idle state. SS transmits a PAGING TYPE 1 message with UE's identity. UE shall respond with a RRC CONNECTION REQUEST message.

Expected sequence

Step	Direction UE	Direction SS	Message	Comment
1				The UE is in the CELL_FACH state. SS sets its internal counter K=0 and waits for a period equals to timer value T305. ~~If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 4.~~
2	→		CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause" ~~and this message shall be sent on expiry of timer T302 or timer T305~~.
3				SS transmits no response to the UE and increments counter K.
4				SS waits for an additional period equal to T302 timer and if K is not greater than N302, then next step is step 2. Else the next step is step 5. ~~If CELL UPDATE message is received, proceed to step 2. Otherwise, terminates the test. If K is not equal to N302+1, the test shall be considered as a failure.~~
5				The UE shall enter idle mode state.

Specific Message Contents

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'

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 "periodical cell update" into IE "Cell update cause".

After step 3 and if K is not greater than N302, the UE shall retry to transmit a CELL UPDATE message.

~~After step 4 the counter K in SS shall be equal to N302+1.~~

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 a 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 a CELL UPDATE message when it receives an ~~erroneous~~ invalid CELL UPDATE CONFIRM message, ~~if~~ before the number of retransmissions ~~is not~~has reached 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 6-12) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with an invalid CELL UPDATE CONFIRM message on downlink DCCH using UM RLC. The UE shall detect the protocol error and re-transmit a 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+2) 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. Next, the UE is paged with CN domain identity (TMSI or P-TMSI) to verify that it returned to idle mode~~then transmit a valid CELL UPDATE CONFIRM message.

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.~~ SS pages for the UE using the allocated connected mode identity (U-RNTI).
2	→		CELL UPDATE	~~If CELL UPDATE message is received, check~~ Check that the value "paging response" is set in IE "Cell update cause". ~~Else goes to step 6.~~
3	←		CELL UPDATE CONFIRM	~~SS transmits an invalid message.~~ See specific message content. ~~SS increments K.~~
4	→		CELL UPDATE	~~SS waits for T302 timer to expire. The UE shall send CELL UPDATE message.~~ Check that the value "paging response" is set in IE "Cell update cause", the value "protocol error" is set in IE "failure cause" and the value "ASN.1 violation and encoding error" is set in IE "Protocol error information".
5	←		CELL UPDATE CONFIRM	~~If a CELL UPDATE message is received in step 4, SS increments K and returns to step 3. Else, SS proceeds to step 6.~~ Use the default message found in Annex A.
~~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. Paging identity is U-RNTI~~
~~8~~				~~UE shall not respond. This is verified for 3 seconds.~~
~~9~~	~~←~~		~~PAGING TYPE 1~~	~~SS pages UE for CS or PS services depending on CN domain supported by the UE. Paging identity is either TMSI or P-TMSI~~
~~10~~	~~→~~		~~RRC CONNECTION REQUEST~~	
~~11~~	~~←~~		~~RRC CONNECTION REJECT~~	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

~~Use the same message sub-type found in Annex A, with the following exception:~~

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value.~~Not Present

CELL UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if it is set to 'protocol error'
-Protocol error information	Check to see if it is set to "ASN.1 violation and encoding error"~~Information element value not comprehended~~

PAGING TYPE 1 (Step 1 ~~and 7~~)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

8.3.1.13.5 Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause".

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause", "protocol error" into IE "failure cause" and "ASN.1 violation or encoding error" into IE "Protocol error information".

~~After step 3 the UE shall continue to transmit CELL UPDATE message for N302+1 times.~~

~~At step 6 the counter K shall 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: Incompatible simultaneous reconfiguration

8.3.1.14.1 Definition

8.3.1.14.2 Conformance Requirement

If the UE encounters a CELL UPDATE CONFIRM message that includes "Physical channel information elements" and UE's variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set IE "failure cause" to "Incompatible simultaneous reconfiguration", re-transmits a CELL UPDATE message on uplink CCCH,

restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the downlink message. ~~On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.~~

8.3.1.14.3   Test Purpose

To confirm that the UE retransmits a CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that includes "Physical channel information elements" and UE's variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure, ~~if~~ before the number of retransmissions has ~~not~~ reached the maximum allowed value.

8.3.1.14.4   Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message contains IE "Physical channel information elements". Following that, SS immediately transmits another CELL UPDATE CONFIRM message contains IE "Physical channel information elements" before the "activation time" indicated in the previous CELL UPDATE CONFIRM message expires. The UE shall re-transmit a CELL UPDATE message with the same cause as the previous CELL UPDATE message and failure cause as "Incompatible simultaneous reconfiguration". SS then transmits a CELL UPDATE message to end the procedure.

Expected Sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	PAGING TYPE 1	
2	→		CELL UPDATE	
3		←	CELL UPDATE CONFIRM	SS transmits this message including IE "Physical channel information elements".
4		←	CELL UPDATE CONFIRM	Sent before the activation time specified in the message in step 3 has elapsed. ~~SS transmits this message including IE "Physical channel information elements".~~
5	→		CELL UPDATE	
6		←	CELL UPDATE CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'

CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if set to 'Incompatible simultaneous reconfiguration'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Maximum allowed UL TX power	30dBm

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Maximum allowed UL TX power	25dBm

~~CELL UPDATE CONFIRM (Step 5)~~

~~Use the same message sub-type found in Annex A.~~

PAGING TYPE 1 (Step 1)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

8.3.1.14.5   Test Requirement

After step 1, UE shall transmit a CELL UPDATE message~~perform cell update procedure~~.

After step 4 the UE shall re-transmit a CELL UPDATE message ~~cell update procedure~~ with failure cause set to "Incompatible simultaneous reconfiguration".

8.3.1.15   Cell Update: Unrecoverable error in Acknowledged Mode RLC

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 a 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.

Reference

3GPP TS 25.331 clause 8.3.1

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_InitialDCCH+DTCH_DCH (state 6-29) or PS-DCCH+DTCH_DCH CELL_FACH_Initial (state 6-410) 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 CELL_ ~~FACH~~ DCH state. SS sends a UE CAPABILITY ENQUIRY message on the DCCH using AM mode. The UE shall reply with a UE CAPABILITY INFORMATION message, sent using AM RLC on the DCCH. SS does not acknowledge the AM PDUs carrying this message. The UE shall continue to re-transmit the AM PDU carrying UE CAPABILITY INFORMATION 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. At this point, the UE shall initiate a cell update procedure by transmitting a CELL UPDATE message on the uplink CCCH. The CELL UPDATE message shall specify the value "TRUE" in IE "AM_RLC error indicator (RB2 or RB3)" and "RLC unrecoverable error" as the cell update cause. SS replies with CELL UPDATE CONFIRM message with IE "RLC re-establish indicator (RB2 and RB3)" set to TRUE. SS then attempts to perform a local authentication by transmitting a UE CAPABILITY ENQUIRY message using AM RLC on DCCH. The UE shall respond by sending a UE CAPABILITY INFORMATION message on the uplink DCCH, verifying that the AM RLC entity for RRC signalling was successfully reset. SS shall transmit a UE CAPABILITY INFORMATION CONFIRM message to UE to end the test.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is initially in CELL_ ~~FACH~~ DCH state.
2	←		UE CAPABILITY ENQUIRY	
3	→		UE CAPABILITY INFORMATION	~~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.
4				UE shall start to transmit a RESET PDU ~~using AM RLC on the DCCH~~. SS does not respond to any RESET PDU frames ~~originating~~ originated from the UE, and it waits for a period equivalent to (MAX_RST+1) times expiry of Timer_RST.
5	→		CELL UPDATE	UE shall send this message on CCCH. IE "AM_RLC Error Indication (RB2 or RB3)" shall be set to 'TRUE'
6	←		CELL UPDATE CONFIRM	~~"RRC State Indicator" set to "CELL_FACH". UE shall transit to CELL_FACH state.~~ IE "RLC re-establish indicator (RB2 and RB3)" set to TRUE.
7	←		UE CAPABILITY ENQUIRY	
8	→		UE CAPABILITY INFORMATION	This message shall be transmitted using AM RLC for RRC signalling on the uplink DCCH.
9	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2 and 7)

Use the same message found in Annex A.

UE CAPABILITY INFORMATION (Step 3 and 8)

Only the message type IE is checked for this message.

CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 (RB2 or RB3)	Check to see if set to 'TRUE'
Cell update cause	RLC unrecoverable error

CELL UPDATE CONFIRM (Step 6)

Use the same message found in Annex A, with the following exception.

Information Element	Value/remark
RLC re-establish indicator (RB2 and RB3)	~~Check to see if set to~~ 'TRUE'

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Use the same message found in Annex A.

8.3.1.15.5   Test Requirement

After step 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 RB2 or RB3 data as well as cell update cause set to "RLC unrecoverable error".

After step 7 the UE shall send a UE CAPABILITY INFORMATION message on the uplink DCCH. This message shall be sent using the AM RLC entity for RRC signalling.

8.3.1.16   Void~~Cell Update: cell reselection in CELL_FACH~~

~~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 sends the correct uplink response 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, with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1-1, while 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, 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. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1-1. 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 transmit 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 "RRC State Indicator" set to "CELL_PCH", IE "U-RNTI" and an IE "New U-RNTI" to the UE on the downlink CCCH. UE shall response with UTRAN MOBILITY INFORMATION CONFIRM 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	SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.1-1. 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" shall be indicated in IE " Cell update cause"
5	→		UTRAN MOBILITY INFORMATION CONFIRM	

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'
Cell Update Cause	Check to see if set to 'Cell Re-selection'

~~CELL UPDATE CONFIRM (Step 4)~~

~~Use the same message sub-type found in Annex A, with the following exceptions:~~

Information Element	Value/remark
~~U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0001'~~
~~- S-RNTI~~	~~'0000 0000 0000 0000 0001'~~
~~RRC State Indicator~~	~~CELL_PCH~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0000 0001'~~
~~- S-RNTI~~	~~An arbitrary 20-bits string which is different from original S-RNTI~~

~~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 transmit UTRAN MOBILITY INFORMATION CONFIRM message.~~

8.3.1.17   Cell Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)

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 CCCH, it shall release all its radio resources and enter idle mode.

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 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: <u>PS-DCCH+DTCH_FACH (state 6-11)</u>~~CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1, depending on the CN domain(s) supported by the UE.~~

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 periodical cell updating procedure. The SS transmits <u>a</u> RRC CONNECTION RELEASE message on downlink CCCH. The UE shall return to idle mode after release of all current signalling flows and radio access bearers. <u>SS verifies that UE is in idle mode state by</u> ~~This is verified by paging the UE using previously allocated U-RNTI, in which case the UE shall not respond, and then~~ paging the UE with CN identity, in which case the UE shall attempt to establish a RRC connection.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		CELL UPDATE	The value "periodical cell update" shall be set in IE "-Cell update cause" and this message shall be sent upon expiry of timer T305.
2	←		RRC CONNECTION RELEASE	SS transmits a RRC CONNECTION RELEASE message to the UE.
3	←		~~PAGING TYPE 1~~Void	~~SS pages the UE using the previously allocated U-RNTI.~~
4			Void	~~The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.~~
5	←~~←~~		PAGING TYPE 1	Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.
6	→~~→~~		RRC CONNECTION REQUEST	
~~7~~	~~←~~		~~RRC CONNECTION REJECT~~	

Specific Message Contents

CELL UPDATE (Step 1)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Periodic cell updating'

RRC CONNECTION RELEASE (Step 2)

~~Only the message type is checked for this message~~Use the same message sub-type found in Annex A.

PAGING TYPE 1 (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the IMSI value stored in the TEST USIM card.

8.3.1.17.5   Test requirement

In step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodical cell update" into IE " Cell update cause".

After step ~~2~~ 5 the UE transmit a RRC CONNECTION REQUEST message.~~shall return to idle mode~~.

8.3.1.18   Cell Update: Radio Link Failure (T314>0, T315=0)

8.3.1.18.1   Definition

8.3.1.18.2   Conformance requirement

When a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. 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 CELL UPDATE message on the uplink CCCH.

If the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message and the maximum allowable number of retransmission has not been reached, the UE shall select a suitable UTRA cell and transmit a CELL UPDATE message.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.18.3   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 after detecting that a radio link failure has occurred.

To confirm that the UE performs a cell selection procedure when it fails to configure the physical channel(s) indicated in the CELL UPDATE CONFIRM message.

8.3.1.18.4   Method of test

Initial Condition

System Simulator: 2 cells • Cell 1 is active, Cell 2 is inactive •

UE: CS_DCCH+DTCH_DCH (state 6~~5~~9) or PS_DCCH+DTCH_DCH (state 6.~~7~~10) in cell 1, depending on the CN domain(s) supported by the UE.

Test Procedure

Table 8.3.1.18

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	OFF	-75	-60

Table 8.3.1.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making ~~an~~a successful outgoing call attempt. After the call has been established, SS transmits UTRAN MOBILITY INFORMATION message to UE to change to value of T315 timer. UE shall respond with a UTRAN MOBILITYBINFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.18~~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 shall then enter CELL_FACH state and transmit~~s~~ CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes ~~IE "new C-RNTI"~~dedicated physical channel parameters. SS shall not configure according to this message and its downlink transmission power settings according to columns "T0" in Table 8.3.1.18. UE shall fail to establish the dedicated channel in cell 2. UE shall re-select to cell 1 and transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure". Then SS responds with a

CELL UPDATE CONFIRM message to end the procedure. ~~transmit an~~ UTRAN MOBILITY INFORMATION ~~CONFIRM message on the uplink DCCH using AM RLC.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	UTRAN MOBILITY INFORMATION~~RADIO BEARER SETUP~~	T315=0
2	→		UTRAN MOBILITY INFORMATION CONFIRM~~RADIO BEARER SETUP COMPLETE~~	
3			Void	~~The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.~~
4		←	~~BCCH~~	SS configures cell 1 and 2 according to column "T1" in Table 8.3.1.18.~~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			Void	~~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	→		CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
8		←	CELL UPDATE CONFIRM	Including ~~IE "new U-RNTI" and IE "new C-RNTI"~~dedicated physical channel parameters.
9	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~	SS does not configure according to the message in step 8. SS configures cell 1 and 2 according to column "T0" in Table 8.3.1.18.
10	→		CELL UPDATE	UE shall select cell 1 and enter CELL_FACH state to transmit this message
11		←	CELL UPDATE CONFIRM	

Specific Message Contents

~~RADIO BEARER SETUP~~UTRAN MOBILITY INFORMATION (Step 1)

The contents of ~~RADIO BEARER SETUP~~UTRAN MOBILITY INFROMATION message in this test case is identical to those in ~~default contents of layer 3 messages for RRC tests~~Annex A with the following exceptions:

Information Element	Value/remark
~~RAB information to setup list~~New U-RNTI	Not Present
~~- RAB information to setup~~New C-RNTI	Not Present
UE Timers and constants in connected mode~~- RAB info~~	
- T315	0

CELL UPDATE (Step 7)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned ~~previously~~ in cell ~~1~~2.
- S-RNTI	Check to see if set to value assigned ~~previously~~ in cell ~~1~~2.
Cell Update Cause	Check to see if set to 'radio link failure'

CELL UPDATE CONFIRM (Step 8)

Use the same message sub-type found in ~~step 4~~Annex A, with the following exceptions:

Information Element	Value/remark
~~New U-RNTI~~	
~~- SRNC Identity~~	~~'0000 0000 0001'~~
~~- S-RNTI~~	~~An arbitrary 20-bits string which is different from original S-RNTI~~
~~New C-RNTI~~CHOICE channel requirement	~~An arbitrary 16-bits string which is different from original C-RNTI.~~Same as the set defined in the RADIO BEARER SETUP message in initial condition.

CELL UPDATE (Step 10)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'

8.3.1.18.5   Test requirement

~~After step 5, the UE shall indicate to the non-access stratum the release of the radio bearer which is associated with T315.~~

After step 1, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message.

After step 6, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

After step ~~8~~9, the UE shall transmit a CELL UPDATE ~~UTRAN MOBILITY INFORMATION CONFIRM~~ message ~~to Ss~~with IE "Cell update cause" set to "Radio link failure".

8.3.1.19   VOID

8.3.1.20   Cell Update: Reception of CELL UPDATE CONFIRM Message that causes invalid configuration

8.3.1.20.1   Definition

8.3.1.20.2   Conformance Requirement

If the UE encounters a CELL UPDATE CONFIRM message that set the variable INVALID_CONFIGURATION to TRUE 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 IE "failure cause" to "invalid configuration", re-transmits a 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~~erroneous downlink message. ~~On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.~~

8.3.1.20.3   Test Purpose

To confirm that the UE retransmits a CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that will trigger an invalid configuration in the UE, if the number of retransmissions has not reached 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.~~

8.3.1.20.4   Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a̲ PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a̲ CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message ~~with IE "RRC State Indicator" set to "CELL_DCH"~~which is set to give an invalid configuration. The UE shall ~~detect its variable "invalid configuration" is set and~~ re-transmit CELL UPDATE message ~~up to a maximum of N302 times. 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 paging message. Finally, to verify that the UE entered Idle Mode, it is paged via TMSI or P-TMSI (depending on the CN domain supported), in which case the UE shall attempt to establish a RRC connection~~responds with a valid CELL UPDATE CONFIRM message to end the procedure.

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.~~ SS pages for the UE using the allocated connected mode identity (U-RNTI).
2	→		CELL UPDATE	If CELL UPDATE message is received, check that the value "paging response" is set in IE "Cell update cause". ~~Else goes to step 6.~~
3	←		CELL UPDATE CONFIRM	SS transmits an invalid message. ~~SS increments K.~~
4	→		CELL UPDATE	IE "failure cause" is set to "invalid configuration"
5	←		CELL UPDATE CONFIRM	~~If a CELL UPDATE message is received in step 4, SS increments K and returns to step 3. 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 using previously allocated U-RNTI.~~
8				~~UE shall not respond. This is verified for 3 seconds.~~
9	←		~~PAGING TYPE 1~~	~~Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.~~
10	→		~~RRC CONNECTION REQUEST~~	
11	←		~~RRC CONNECTION REJECT~~	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not Present

CELL UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if it is set to 'invalid configuration'

PAGING TYPE 1 (Step 1 and 7)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

8.3.1.20.5   Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response".

After step 3 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response" and IE "failure cause" set to "invalid configuration".

After step 3 the UE shall continue to transmit CELL UPDATE message for N302+1 times.

In step 6 the counter K shall 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.

8.3.2   URA Update

8.3.2.1   URA Update: Change of URA

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 change of URA has occurred in URA_PCH state. It may also be used for supervision of the RRC connection, even if no change of URA takes place.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.2.1.3   Test purpose

To confirm that the UE executes an URA update procedure after the successful change of URA. To confirm UE responds correctly when it re-selects to a new cell while waiting ~~from~~ for URA UPDATE CONFIRM message from SS.

8.3.2.1.4   Method of test

Initial Condition

System Simulator: 3 cells - Cell 1 and 2 are active with URA-ID 1 and the downlink transmission power shown in column marked "T0" in Table 8.3.2.1~~-1~~, while cell 3 is ~~in~~active with URA-ID 2

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~, with URA-ID 1 from the list of URA-ID in cell 1

Test Procedure

Table 8.3.2.1~~-1~~

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
CPICH ~~RSCP~~Ec	dBm/3.84MHz	-~~73~~60	-~~79~~75	-~~79~~75	-~~79~~75	-~~73~~60	-~~79~~75	-~~79~~75	-~~79~~75	-~~73~~60

The test begins with the downlink power transmission of all cells set according to 'T0' column in Table 8.3.2.1. The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. The SS then adjusts the transmission power again according to 'T1' column. This is expected to cause the UE to perform a cell reselection to cell 2. Since same URA identity is broadcasted in cell 1 and 2, the UE shall not perform any URA update procedure due to the change of URA. Next SS adjusts the transmission power according to 'T2' column. UE shall perform a cell reselection to cell 3 and when the UE finds that its current URA-ID 1 is not in 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 a URA UPDATE CONFIRM message, which includes the IEs "RRC State Indicator" and IE "URA-ID" to the UE on the downlink DCCH. The IE "RRC State Indicator" is set to "URA_PCH". UE returns to URA_PCH state in cell 3 without sending any uplink response message. Next SS adjusts the transmission power according to 'T1' column. UE shall re-select to cell 2 and transmit a URA UPDATE message to SS. However, SS do not acknowledge but adjusts the transmission power according to 'T0' column. UE shall perform cell re-selection to cell 1 and then sent a URA UPDATE message to SS. Finally SS shall transmit URA UPDATE CONFIRM message to UE.

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 set the power transmission of all cells according to column 'T1' of Table 8.3.2.1-1.
3				UE shall perform a cell reselection but shall not transmit URA UPDATE message with the update cause of "change of URA".
4	←		BCCH	SS set the power transmission of all cells according to column 'T2' of Table 8.3.2.1-1.
5	→		URA UPDATE	The UE shall perform a cell reselection first and when it finds that its current URA-ID 1 is not in the newly broadcasted list of URA-IDs, it shall then transmit this message and set value "change of URA" into IE "URA update cause".
6	←		URA UPDATE CONFIRM	Message comprises IE "RRC State Indicator" set "URA_PCH", and also IE "URA Identity" equals to "URA-ID 2".
7	←		BCCH	SS set the power transmission of all cells according to column 'T1' of Table 8.3.2.1-1.
8	→		URA UPDATE	
9	←		BCCH	SS do not respond to the URA UPDATE message from UE and set the power transmission of all cells according to column 'T0' of Table 8.3.2.1-1.
10	→		URA UPDATE	
11	←		URA UPDATE CONFIRM	

Specific Message Contents

URA UPDATE (Step 5, 8 and 10)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
URA Update Cause	Check to see if set to 'change of URA'

URA UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:.

Information Element	Value/remark
URA identity	URA-ID 2

URA UPDATE CONFIRM (Step 11)

Use the same message sub-type found in Annex A, with the following exceptions:.

Information Element	Value/remark
URA identity	URA-ID 1

8.3.2.1.5   Test requirement

After step 2 the UE shall not transmit a URA UPDATE message.

After step 4 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 a URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 7 the UE shall find that URA-ID 1 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and a transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 9 the UE shall find the new cell and transmit a URA UPDATE message setting value "change of URA" into IE "URA update cause".

8.3.2.2   URA Update: Periodical URA update and Reception of Invalid message

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 T305.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.2.2.3   Test purpose

To confirm that the UE executes a URA update procedure after the expiry of timer T305. 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 (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the URA_PCH state. When the UE detects the expiry of timer T305, 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 invalid URA UPDATE CONFIRM message sent on downlink CCCH, and check to see if the UE handles

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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 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 T305 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	See specific message content.
4	→		URA UPDATE	UE shall not return to idle mode immediately, but attempts to re-transmit this message.
5	←		URA UPDATE CONFIRM	Including IE "new U-RNTI"
6	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
URA Update Cause	Check to see if set to 'Periodic URA update'

URA UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
RRC Transaction identifier	Check to see if set to the value given in URA UPDATE CONFIRM message in step 3.
URA Update Cause	Check to see if set to 'Periodic URA update'
Protocol error indicator	TRUE
Protocol error information	
- Protocol error cause	Information element value not comprehendedASN.1 violation or encoding error

URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
~~UTRAN DRX cycle length coefficient~~All IEs	~~Out of range value~~Not Present

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
SRNC Identity	'0000 0000 0001'
S-RNTI	'0000 0000 0000 0000 1111'

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 1 the UE shall detect the expiry of timer T305, move to CELL_FACH state, and transmit a URA UPDATE message which ~~is~~ sets the value "periodical cell update" into IE "URA update cause".

After step 3 the UE shall re-transmit URA UPDATE message with IE "Protocol error indicator" set to 'TRUE' and IE "Protocol error information" set to "ASN.1 violation and encoding error".

After step 5 the UE shall transmit an 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 T305 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 T305, and then subsequently re-enters the service area before the expiry of T307.

Reference

3GPP TS 25.331 clause 8.3.1

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 T305.

8.3.2.3.4 Method of test

Initial Condition

System Simulator: ~~2~~ 1 cells ~~Cell 1 is active~~ with URA-ID 1 and the downlink transmission power shown in column marked "T0" in Table 8.3.~~1~~2.1 1~~3, while cell 2 is inactive with URA-ID 2~~

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~, with URA-ID 1 in the list of URA-ID ~~from cell 1~~

Test Procedure

Table 8.3.2.3

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80

Table 8.3.2.3 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is initially in URA_PCH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3 so that S<0. SS decrease the transmission power of cell such that cell selection figure of merit S<0. When the UE detects the expiry of timer T305 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 configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 so that S>0. SS increases the transmission power so that the The UE shall detects that it returns to normal service within before T307 expires. The UE shall move to CELL_FACH state and starts transmitting a URA UPDATE message which contains the value "re-entered service area" 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 UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. Next, transmission power of cell 1 is decreased such that cell selection figure of merit S<0. 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.
1a	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b	←		PAGING TYPE 1	Include IE "BCCH modification info"

2				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3~~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 T305. It shall discover that it is out of service and starts searching for cell to camp.(T307 timer starts)
4				SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 ~~SS increases the transmission power to the original level~~ before T307 expires.
5	→	URA UPDATE		Value "re-entered service area" shall be set in IE "URA update cause"
6	←	URA UPDATE CONFIRM		The message includes IEs "new C-RNTI" , and "new U-RNTI"
7	→	UTRAN MOBILITY INFORMATION CONFIRM		
~~8~~				~~SS decreases the transmission power such that the cell 1 is no longer suitable for camping i.e. S<0and wait until T305 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"~~
~~11~~	~~←~~	~~URA UPDATE CONFIRM~~		

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

PAGING TYPE 1 (Step 1b)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2
BCCH modification time	Not present

URA UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:~~Use the same message sub-type found in Annex A, with the following exceptions:~~

~~URA 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'
URA Update Cause	Check to see if set to 're-entered service area'

URA UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 1111 1111'
New C-RNTI	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~~	~~Check to see if set to '0000 0000 0001'~~
~~- S-RNTI~~	~~Check to see if set to '0000 0000 0000 1111 1111'~~
~~URA Update Cause~~	~~Check to see if set to 'change of URA'~~

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" into IE "URA update cause"~~, before the expiry of timer T307~~.

After step 6 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

~~After step 9 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 T305

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 T305 consecutively. The UE shall move to idle mode subsequently.

Reference

3GPP TS 25.331 clause 8.3.1

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 T305 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 (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

Table 8.3.2.4

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80

Table 8.3.2.4 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in URA_PCH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3 so that S<0. SS decrease the transmission power of cell such that cell selection figure of merit S<0... When the UE detects the expiry of periodic URA updating timer T305 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. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 so that S>0. SS verifies that UE is in idle mode state by sending a PAGING TYPE 1 message to the UE using UE identity. UE shall respond to this message. SS pages UE using PAGING TYPE 1 message with UTRAN identity to check if UE is in URA_PCH state. Finally, SS pages UE using PAGING TYPE 2 message to check if UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Initially, the UE is in the URA_PCH state.
1a	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b	←		PAGING TYPE 1	Include IE "BCCH modification info"
2				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.4 ~~SS decreased the downlink transmission of cell 1~~ so that the UE detects that it is out of service area.
3				Upon the expiry of timer T305, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that URA UPDATE message is not transmitted.
4				After the expiry of timer T307, the UE enters idle state.
~~5~~	~~←~~		~~PAGING TYPE 1~~	~~Set IE "CHOICE Used paging identity" to "UTRAN identity".~~
~~6~~	~~←~~		~~PAGING TYPE 2~~	

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

PAGING TYPE 1 (Step 1b)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2
BCCH modification time	Not present

~~None~~

8.3.2.4.5   Test requirement

After step 2 the UE shall ~~detect the expiry of timer T305,~~ not transmit any URA UPDATE message on the uplink CCCH~~, move to CELL_FACH state, and start timer T307~~.

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After step 5 ~~and 6~~, UE shall <u>enter idle mode state</u>~~not respond to the paging messages~~.

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

UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. UTRAN shall 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 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 V302 is greater than N302.

Reference

3GPP TS 25.331 clause 8.3.1

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 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

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 T305 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~~<u>RRC state indicator</u>" <u>set to "URA_PCH"</u>~~, "new U-RNTI"~~ and <u>IE "URA identity" set to</u> "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 in system information block type 2, <u>and</u> 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 N302+1 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" <u>and IE "new U-RNTI"</u>. The UE shall find this URA-ID in its URA-ID list and transmits an 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 T305.
3				SS increments K by 1. If K is not greater than N302, proceed to step 4. If K is greater than N302, SS proceeds to step 5.
4	←		URA UPDATE CONFIRM	SS transmits this message, setting the value "URA-ID 2" to IE "URA Identity". SS waits for T302 to expires and then returns to step 2.
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	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
URA Update Cause	Check to see if set to 'Periodic URA update'

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type as specified in Annex A, with the following exceptions:

Information Element	Value/remark
~~RRC State Indicator~~	~~URA_PCH~~
URA Identity	2

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as specified in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
-SRNC Identity	'0000 0000 0001'
-S-RNTI	'0000 0000 0000 0101 0101'
URA Identity	1

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 T305, 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 4 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 (N302+1) URA UPDATE messages shall be received by the SS.

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

8.3.2.6   URA Update: Failure (V302 is greater than N302: Confirmation error of URA-ID list)

8.3.2.6.1   Definition

8.3.2.6.2   Conformance requirement

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 V302 is greater than N302. If V302 is greater than N302 then the UE enters idle state.

Reference

3GPP TS 25.331 clause 8.3.1

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 V302 is greater than N302.

8.3.2.6.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is originally in ~~the~~ URA_PCH state updated with URA-ID 1. When the UE detects the expiry of timer T305 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~~RRC state indicator" set to "URA_PCH" 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~~.~~ Then the UE shall retry to transmit a URA UPDATE message for N302 times and each time the SS responds with the URA UPDATE CONFIRM message similar to the previous one. 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 0.
2	→		URA UPDATE	The message shall indicate "periodic URA update" in IE "URA update cause". This message is sent following the expiry of timer T305. 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 is greater than N302 proceeds to step 4, else SS waits for T302 to expires and executes step 2.
4			~~Void~~	~~SS waits for a T305 to verify that no further URA UPDATE messages are transmitted by UE. The counter K shall be equal to (N302+1).~~ The UE shall enter idle state.

Specific Message Contents

URA UPDATE CONFIRM (Step 4~~3~~)

Use the same message sub-type defined in 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 T305, 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~~ 3 and if K is not greater than N302, 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 and if K is greater than N302, the UE shall stop transmitting URA UPDATE message and then enters idle state. ~~The counter K shall be equal to (N302+1).~~

8.3.2.7   URA Update: Success after T302 timeout

8.3.2.7.1   Definition

8.3.2.7.2   Conformance requirement

The UE transmits 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 T302 timer ~~expiry~~expires, it transmits a URA UPDATE message repeatedly at an interval of T302 timer value until its internal counter V302 is greater than N302.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.2.7.3   Test purpose

To confirm that the UE attempts to repeat the URA update procedure upon the expiry of timer T302. ~~To confirm that a maximum of N302 re-transmission is performed.~~

8.3.2.7.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is in ~~the~~ URA_PCH. When the UE detects the expiry of timer T305 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~~The UE shall then retry to transmit a URA UPDATE message after the expiry of timer T302. SS ~~continues to ignore further URA UPDATE message until it receives (N302+1) such messages. 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 UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH~~to end the procedure.

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 0.~~ SS waits for T305 to expire.
2	→		URA UPDATE	This message shall contain value "periodic URA update" in IE "URA update cause" sent upon the expiry of timer T305.
3				SS ~~increments K by 1~~shall not reply.
4	→		URA UPDATE	This message shall contain value "periodic URA update" in IE "URA update cause" sent upon the expiry of timer T302.~~If K is not greater than N302, SS transmits no response to the UE, waits for an additional period equals to T302 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~~	→		~~UTRAN MOBILITY INFORMATION CONFIRM~~	

Specific Message Contents

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as in Annex A.~~, with the following exceptions:~~

Information Element	Value/remark
~~New U-RNTI~~ ~~SRNC Identity~~ ~~S-RNTI~~ ~~New C-RNTI~~	~~'0000 0000 0001'~~ ~~Arbitrary 20-bit string which is different from S-RNTI field in IE "U-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 T305, 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~~ 3 the UE shall retry to transmit a URA UPDATE message at ~~each~~ the expiry of timer T302. ~~UE shall attempt to re-transmit N302 URA UPDATE messages.~~

~~After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.~~

8.3.2.8   Void~~URA Update: Failure (V302 is greater than N302:T302 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 T302 until its internal counter V302 is greater than N302. If V302 is greater than N302, UE stops sending URA UPDATE message and then enters idle state.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.3.1~~

~~8.3.2.8.3   Test purpose~~

~~To confirm that the UE retries to perform the URA update procedure upon expiry of timer T302 and moves to idle state after retrying for N302 times.~~

~~8.3.2.8.4   Method of test~~

~~Initial Condition~~

~~System Simulator: 1 cell~~

~~UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.~~

~~Test Procedure~~

~~The UE is in the URA_PCH state. When the UE detects the expiry of timer T305 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 "periodical URA update" in IE "URA update cause". SS ignores this message, the UE shall~~

~~continue to transmit URA UPDATE messages for N302+1 times after the expiry of timer T302. After N302 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 T302 expires.~~
~~2~~	~~→~~		~~URA UPDATE~~	~~The value "periodic URA update" shall be set in IE "URA update cause".~~
~~3~~				~~SS ignores the message, waits for T302 timer to expire and increments K by 1. If a message is received after T302 expiry, return to step 2. Else, go to step 4.~~
~~4~~				~~SS checks that K is equal to (N302+2).~~
~~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 T305, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting "periodical 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 T302. SS shall receive (N302+2) 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 CCCH)

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 CCCH, it shall enter idle state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.2.9.3   Test purpose

To confirm that the UE moves to idle state upon the reception of RRC CONNECTION RELEASE message on downlink CCCH during a URA update procedure.

8.3.2.9.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is in ~~the~~ URA_PCH state. When the UE detects the expiry of periodic URA updating timer T305, 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 CCCH. The UE shall 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 T305 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				The UE releases L2 signalling <u>radio bearer</u> ~~link~~ and radio resources then the UE goes to idle mode.

Specific Message Contents

URA UPDATE (Step 2)

<u>The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:</u>

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'
URA Update Cause	Check to see if set to 'Periodic URA update'

RRC CONNECTION RELEASE (Step 3)

<u>Use the same message sub-type found in Annex A</u>~~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 ~~return to~~<u>enter</u> idle ~~mode~~<u>state</u>.

8.3.2.10 URA Update: Reception of URA UPDATE CONFIRM message that causes invalid configuration ~~and invalid URA UPDATE CONFIRM message~~

8.3.2.10.1 Definition

8.3.2.10.2 Conformance Requirement

If the UE encounters a URA UPDATE CONFIRM message that set the variable INVALID_CONFIGURATION to TRUE while executing a URA update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall re-transmits URA 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.

8.3.2.10.3 Test Purpose

To confirm that the UE retransmits a URA UPDATE message when it receives a URA UPDATE CONFIRM message that will trigger an invalid configuration in the UE, if the number of retransmissions has not reached the maximum allowed value. ~~To confirm that the UE retransmits URA UPDATE message when it receives an invalid URA UPDATE CONFIRM message.~~

8.3.2.10.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108~~, depending on the CN domain(s) supported by the UE~~.

Test Procedure

The UE is in ~~the~~ URA_PCH state. When the UE detects the expiry of timer T305 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 "periodical URA update" in IE "URA update cause". Upon receiving such a message, the SS replies with a URA UPDATE CONFIRM message with IE "RRC State Indicator" set to "CELL_DCH". The UE shall detect its variable "invalid configuration" is set and re-transmit URA UPDATE message. ~~Next SS shall transmit an invalid URA UPDATE CONFIRM message. The UE shall detect its variable "PROTOCOL_ERROR_REJECT" is set to TRUE and re-transmit URA UPDATE message.~~ SS then transmit an valid URA UPDATE CONFIRM UPDATE message to end the procedure.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T305 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	
4	→		URA UPDATE	~~UE shall re-transmit this message.~~ IE "Protocol error indicator" is set to TRUE and IE "Protocol error information" is set to "Information element value not comprehended".
~~5~~	~~←~~		~~URA UPDATE CONFIRM~~	~~SS transmits an invalid message.~~
~~6~~	~~→~~		~~URA UPDATE~~	~~UE shall re-transmit this message. See specific message content.~~
7	←		URA UPDATE CONFIRM	

URA UPDATE (Step 2 ~~and 4~~)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
URA Update Cause	Check to see if set to 'Periodic URA update'

URA UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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'
URA Update Cause	Check to see if set to 'Periodic URA update'
Protocol error indicator	TRUE
Protocol error information	
- Protocol error cause	Information element value not comprehended

URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
~~Uplink DPCH info~~	~~Not present~~

~~URA UPDATE CONFIRM (Step 5)~~

~~Use the same message sub-type found in Annex A, with the following exception:~~

Information Element	Value/remark
~~Ciphering mode info~~	
~~- Ciphering mode info~~	~~Start~~
~~- Ciphering algorithm~~	~~Not Present~~
~~- Ciphering activation time for DPCH~~	~~Not Present~~
~~- Radio bearer downlink ciphering activation time info~~	~~Not Present~~

~~URA UPDATE (Step 6)~~

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'~~
~~URA Update Cause~~	~~Check to see if set to 'Paging Response'~~
~~Failure cause~~	~~Check to see if it is set to 'protocol error'~~
~~- Protocol error information~~	~~Check to see if it is set to 'Conditional information element error'~~

8.3.2.10.5   Test Requirement

After step 1 the UE shall detect the expiry of timer T305, 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 3 and 5, the UE shall re-transmit URA UPDATE message.~~

After step 3 the UE shall transmit a URA UPDATE message on the uplink CCCH, setting value 'TRUE" in IE "URA update cause" and value "Information element value not comprehended" in "Protocol error cause".

8.3.3.   UTRAN Mobility Information

8.3.3.1   UTRAN Mobility Information: 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 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 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 UTRAN MOBILITY INFORMATION message from the SS.

8.3.3.1.4   Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~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

Initially, the UE is in ~~the~~ CELL_FACH state and it has been assigned a C-RNTI and U-RNTI. The SS transmits an UTRAN MOBILITY INFORMATION message which includes new C-RNTI and U-RNTI to the UE. Then the UE shall transmit a~~n~~ UTRAN MOBILITY INFORMATION CONFIRM message as confirmation. SS waits for UE to perform periodic ~~cell updating~~cell updating. When SS received a CELL UPDATE message, SS checks that UE uses the new U-RNTI in the CELL UPDATE message and the new C-RNTI in the MAC header. Then SS sends CELL UPDATE CONFIRM ~~to end the test procedure~~. SS waits for UE to perform periodic cell updating. When SS received a CELL UPDATE message, SS sends CELL UPDATE CONFIRM to end the test procedure.

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	Contains new C-RNTI and U-RNTI identities and a value for T305 that is different from the value defined in the system information.
3	→		UTRAN MOBILITY INFORMATION CONFIRM	
4				SS wait for T305 (same as the value defined in system information) to expire.
5	→		CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the UTRAN MOBILITY INFORMATION message in step 2.
6	←		CELL UPDATE CONFIRM	
7				SS wait for T305 (the new value as specified in step 2) to expire.
8	→		CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the UTRAN MOBILITY INFORMATION message in step 2.
9	←		CELL UPDATE CONFIRM	

Specific Message Content

UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub-type as in 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'
UE Timers and constants in connected mode	
- T305	5 minutes

UTRAN MOBILITY INFORMATION CONFIRM (Step 3)

Only the message type IE is checked in this message.

CELL UPDATE (Step 5 and 8)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 '0101 0101 0101 0101 0101'
	Check to see if set to 'periodical cell updating'

CELL UPDATE CONFIRM (Step 6 and 9)

Use the same message sub-type as in Annex A.

8.3.3.1.5   Test requirement

After step 2 the UE shall transmit an 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 and 7 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "periodical cell updating". The IE "U-RNTI" shall be identical to the IE "New RNTI" found in UTRAN MOBILITY INFORMATION message sent by the SS in step 2. ~~The MAC header shall contain the new C-RNTI.~~

8.3.3.2   UTRAN Mobility Information: Failure (Invalid message reception ~~and cell re-selection~~)

8.3.3.2.1   Definition

8.3.3.2.2   Conformance Requirements

When the UE receives an invalid UTRAN MOBILITY INFORMATION message, ~~which contains an error in one of the mandatory IE,~~ it shall transmit a UTRAN MOBILITY INFORMATION 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. ~~When the conditions for cell re-selection are met before UE submit UTRAN MOBILITY INFORMATION CONFIRM message to lower layer for transmission, UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message to SS.~~

8.3.3.2.3   Test Purpose

To confirm that the UE ignore the ~~new connected mode identities conveyed in an~~ erroneous UTRAN MOBILITY INFORMATION message. ~~To confirm that the UE~~and report this event to the UTRAN by sending UTRAN MOBILITY INFORMATION FAILURE message, stating the appropriate failure cause and information. ~~To confirm UE send UTRAN MOBILITY INFORMATION FAILURE message when it performed cell re-selection before sending UTRAN MOBILITY INFORMATION CONFIRM message to SS.~~

8.3.3.2.4   Method of test

Initial Conditions

System Simulator: 2 1 cells. ~~Cell 1 is active, with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1-1, while cell 2 is inactive.~~

UE: PS-DCCH+DTCH_FACH (state 6-11) ~~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. SS transmits a UTRAN MOBILITY INFORMATION message to the UE on the DCCH using ~~UM~~AM-RLC mode. In this message, the all IEs except "Message Type" are ~~"Ciphering mode info" is~~ ~~set to "Start" but IE "Ciphering algorithm" is~~ not present. ~~A new U-RNTI identity is also present in this message.~~ The UE shall respond by transmitting the UTRAN MOBILITY INFORMATION FAILURE message, indicating "protocol error" in IE "failure cause" and also "~~Information element not comprehended~~ASN.1 violation and encoding error" in IE "Protocol error information". After receiving the UTRAN MOBILITY INFORMATION FAILURE message, SS waits for ~~a duration to allow~~ T305 to expire. The UE shall transmit a CELL UPDATE message with the original U-RNTI identity assigned. SS sends CELL UPDATE CONFIRM message to the UE on the downlink DCCH. ~~Then SS again transmits a UTRAN MOBILITY INFORMATION message to the UE on the DCCH using UM-RLC mode. Immediately following that, SS reverses the power transmission of both cells (transmission power of both cells are adjusted to "T1" in table 8.3.1.1-1). UE shall re-select to the new cell before it can transmit UTRAN MOBILITY INFORMATION CONFIRM message to SS. Then UE shall transmit CELL UPDATE message to SS. SS responds with CELL UPDATE CONFIRM message. Then UE shall transmit UTRAN MOBILITY INFORMATION FAILURE with IE "failure cause" set to "cell update occured" to SS.~~

Expected Sequence

Step	Direction UE	Direction SS	Message	Comment
1				The initial state of the UE is CELL_FACH state.
2	←		UTRAN MOBILITY INFORMATION	~~SS sends illegal message~~See specific message content.
3	→		UTRAN MOBILITY INFORMATION FAILURE	UE shall transmit this message to report the error in 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 UTRAN MOBILITY INFORMATION message in step 2.~~
6	←		CELL UPDATE CONFIRM	
7	←		~~UTRAN MOBILITY INFORMATION~~	
8				~~SS reverses the transmission power level of cell 1 and cell 2.~~
9	→		~~CELL UPDATE~~	
10	←		~~CELL UPDATE CONFIRM~~	
11	→		~~UTRAN MOBILITY INFORMATION FAILURE~~	

Specific Message Content

UTRAN MOBILITY INFORMATION (Step 2)

~~Use the same message sub-type as in Annex A, with the following exceptions:~~

Information Element	Value/remark
~~Ciphering mode info~~	
~~- Ciphering mode command~~	~~Start~~
~~- Ciphering algorithm~~	~~Not Present~~
~~- Ciphering activation time for DPCH~~	~~Not Present~~
~~- Radio bearer downlink ciphering activation time info~~	~~Not Present~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~0000 0000 0001B~~
~~- S-RNTI~~All IEs	~~0000 0000 0000 0000 00011B~~Not Present

UTRAN MOBILITY INFORMATION (Step 7)

~~Use the same message sub-type as in Annex A, with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~New U-RNTI~~	
~~- SRNC Identity~~	~~0000 0000 0001B~~
~~- S-RNTI~~	~~0000 0000 0000 0000 00011B~~

UTRAN MOBILITY INFORMATION FAILURE (Step 3)

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Not checked.
Integrity check info	The presence if this IE is dependent on IXIT statements in 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.
Failure Cause	
- Failure Cause	Check to see if set to 'Protocol error'
- Protocol Error Information	Check to see if set to '~~Conditional information element error~~ASN.1 violation and encoding error'

UTRAN MOBILITY INFORMATION FAILURE (Step 11)

~~Information Element~~	~~Value/remark~~
~~Failure Cause~~	~~Check to see if set to 'cell update occured'~~

CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

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 0001'B
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'B
Cell update cause	Check to see if set to 'periodical cell updating'

~~CELL UPDATE (Step 9)~~

~~Information Element~~	~~Value/remark~~
~~U-RNTI~~	
~~- SRNC Identity~~	~~Check to see if set to '0000 0000 0001'B~~
~~- S-RNTI~~	~~Check to see if set to '0000 0000 0000 0000 0011'B~~
~~Cell update cause~~	~~Check to see if set to 'cell reselection'~~

CELL UPDATE CONFIRM (Step 6 ~~and 10~~)

Use the same message sub-type as in Annex A.

8.3.3.2.5 Test Requirement

After step 2 the UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message, indicating the value "protocol error" in IE "failure cause" and also "<u>ASN.1 violation and encoding error</u>~~Conditional information element error~~" 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.

~~After step 8 the UE shall initiate a 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.~~

~~After step 10 the UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message, indicating the value "cell update occured" in IE "failure cause".~~

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: 2 cells - Cell 1 ~~is active, Cell~~and 2 ~~is~~ <u>are</u> active

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) ~~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

Test Procedure

Table 8.3.4.1

Parameter	Unit	Cell 1				Cell 2			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 1			
CPICH Ec	dBm/ 3.84 MHz	-60	-60	OFF	-60	-75	-60	-60	OFF

Table 8.3.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

Initially, the UE establishes a radio access bearer in ~~the~~ CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, ~~T~~the SS begins to configure the new radio link to be added from cell 2 and. ~~T~~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, t~~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 configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.1. UE shall not detect the DPCH from cell 1 but continue to communicate through the another DPCH from cell 2~~SS ceases the operations of all uplink and downlink DPCH from cell 1~~. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.~~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.~~ SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1. UE shall detect DPCH from cell 1 and 2. And then SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.1. UE shall not detect the DPCH from cell 2 but continue to communicate through another DPCH from cell 1. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1. ~~The UE is brought to CELL_DCH state in cell 1, after the successful establishment of a radio access bearer service.~~
2	→		MEASUREMENT REPORT	~~The SS configures an additional radio link in the downlink direction from cell 2.~~
3	←		ACTIVE SET UPDATE	SS transmits this 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.
5				SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.1~~SS ceases all Tx and Rx activities in cell 1. But it shall be able to communicate with UE through cell 2.~~
6	←		UE CAPABILITY ENQUIRY	Use default message.

7	→	UE CAPABILITY INFORMATION	Use default message.
8	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
9			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1
10			Wait 15 seconds and SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.1
11	←	UE CAPABILITY ENQUIRY	Use default message.
12	→	UE CAPABILITY INFORMATION	Use default message.
13	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.

Specific Message Content

MEASUREMENT REPORT

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

ACTIVE SET UPDATE

The message to be used in this test is defined in ~~the default message content~~ Annex A~~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~~150
- Downlink DPCH info for each RL	
~~- Primary CPICH usage for channel estimation~~	~~P-CPICH can be used.~~
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference~~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~~
~~- 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~~	~~0~~
~~- SSDT Cell Identity~~	~~Not Present~~
~~- Close loop timing adjustment mode~~	~~Not Present~~
~~- TFCI Combining Indicator~~	~~Not Present~~
~~- SCCPCH information for FACH~~	~~Not Present~~
~~Radio link removal information~~	~~Not Present~~

8.3.4.1.5   Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

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 46 the UESS shall ~~transmit a UE CAPABILITY INFORMATION message~~ ~~continue to communicate with the~~ ~~UE using the radio links added to the UE from cell 2.~~

After step 11 the UE shall transmit a UE CAPABILITY INFORMATION message.

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 connections 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: 2 cells - both Cell 1 and Cell 2 are active

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) ~~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

Test Procedure

Table 8.3.4.2

Parameter	Unit	Cell 1				Cell 2			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 1			
CPICH Ec	dBm/3.84MHz	-60	-60	-75	-60	-75	-60	-60	OFF

Table 8.3.4.2 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE establishes a radio access bearer service in the CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.2. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS begins to configure the new radio link to be added from cell 2 and 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. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.2. UE shall transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 1 according to IE "Intra-frequency event identity", which is set to '1b' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS remove the radio link from cell 1 and then ~~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.~~ SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.2 so as to generate a radio link failure condition. The UE shall detect the radio link failure and transmit a CELL UPDATE message to re-establish an RRC CONNECTION.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.2
2	→		MEASUREMENT REPORT	
3		←	ACTIVE SET UPDATE	SS transmits this 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.
~~1~~5				SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.2~~The UE is in the CELL_DCH state in cell 1. SS executes step 1 to 3 of 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.~~
6	→		MEASUREMENT REPORT	
~~2~~7		←	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE "Radio Link Removal Information".
8~~3~~	→		ACTIVE SET UPDATE COMPLETE	The UE shall remove the radio link associated with cell 1.
9~~4~~		←	UE CAPABILITY ENQUIRY	Use default message.~~The SS stops transmission on the downlink direction from cell 1 and the UE shall continue to communicate on the remaining radio link in cell 2.~~
10	→		UE CAPABILITY INFORMATION	Use default message.
11		←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
12				SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.2
13	→		CELL UPDATE	UE sends this message in cell 1.

Specific Message Contents

MEASUREMENT REPORT (Step 2)

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in Annex.A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	150
- Downlink DPCH info for each RL	
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference

MEASUREMENT REPORT (Step 6)

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0001
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present
- Primary CPICH info	
- Primary scrambling code	100
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

ACTIVE SET UPDATE (Step 7)

The message to be used in this test is the same as the message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
~~Radio link addition information~~	~~Not Present~~
Radio link removal information	1 radio link to be removed
- Primary CPICH info	
- Primary scrambling code	Set to the same P-CPICH scrambling code assigned for cell 1

CELL UPDATE (Step 13)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"radio link failure"

8.3.4.2.5   Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE 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 5 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 7~~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~~10~~ the UE shall transmit a UE CAPABILITY INFORMATION message~~continue to communicate on the remaining radio link from cell 2~~.

After step 12 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

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: 2 cells- Both Cell 1 and Cell 2 are active

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) 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 [Active set is not full.]

Test Procedure

Table 8.3.4.3

Parameter	Unit	Cell 1			Cell 2		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1		
CPICH Ec	dBm/3.84MHz	-60	-60	-60	-75	-60	OFF

Table 8.3.4.3 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.3. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is transmittedreceived, the SS begins to configure the new radio link to be added from cell 2 and then the SS transmits to the UE in cell 1 an ACTIVE SET UPDATE message 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 which 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, on DCCH using AM RLC. 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 and then the UE removes the radio link specified in an ACTIVE SET UPDATE message. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. SS removes the radio link in cell 1.~~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.~~ SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.3 so as to generate a radio link failure condition. The UE shall detect the radio link failure and transmit a CELL UPDATE message to re-establish an RRC CONNECTION.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.3~~The UE is in the CELL_DCH state in cell 1~~
2	→		MEASUREMENT REPORT	~~The SS configures an additional radio link in cell 2, starts the transmission and reception of data in cell 2.~~
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		←	UE CAPABILITY ENQUIRY	Use default message.~~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.~~
6	→		UE CAPABILITY INFORMATION	Use default message.
7		←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
8				SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.3
9	→		CELL UPDATE	

Specific Message Content

MEASUREMENT REPORT (Step 2)

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Measurement identity	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in Annex A~~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	Calculated value from COUNT-C-SFN frame difference~~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~~
~~- 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~~	~~0~~
~~- SSDT Cell Identity~~	~~Not Present~~
~~- Close loop timing adjustment mode~~	~~Not Present~~
~~- TFCI Combining Indicator~~	~~Not Present~~
~~- SCCPCH information for FACH~~	~~Not Present~~
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned ~~as~~ for cell 1

CELL UPDATE (Step 9)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"radio link failure"

8.3.4.3.5 Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

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 on the uplink DCCH.

After step 4~~5~~ the UE shall a UE CAPABILITY INFORMATION message. ~~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.~~

After step 8 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

8.3.4.4 Active set update in soft handover: Invalid Configuration

8.3.4.4.1 Definition

8.3.4.4.2 Conformance requirement

If the UTRAN attempts to add~~remove~~ a radio link but the additional radio link is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information"~~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, if the received ACTIVE SET UPDATE message includes a radio link which is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information"~~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: 2 cells - Cell 1 ~~is active, Cell~~and 2 ~~is~~ are active.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)~~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.

Test Procedure

Table 8.3.4.4

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/3.84 MHz	-60	-75	-60	-60

Table 8.3.4.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.4. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. ~~SS requests for a radio link addition by executing the step 1 to 3 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 the same primary scrambling code in IE "Primary CPICH Info" of both IE "Radio Link Addition Information" and 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 "Invalid configuration" 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				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.4 ~~The UE is in the CELL_DCH state in cell 1.~~
2	→		MEASUREMENT REPORT	~~SS commands the UE to perform a radio link addition procedure by executing step 1 to 3 in test case 8.3.4.1. The UE shall respond accordingly. Both cell 1 and cell 2 shall 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 the same primary scrambling code in IE "Primary CPICH Info" of both IE "Radio Link Addition Information" and IE "Radio Link Removal Information". ~~This content of this IE indicates an unknown cell.~~
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "Invalid configuration" 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
    - Primary CPICH Info
    - Primary Scrambling Code
    - DPCH frame offset
Radio link removal information
    - Primary CPICH info
 	
    - Primary scrambling code
	
	Set to same code as assigned for cell 2~~Not Present~~
	Calculated value from COUNT-C-SFN frame difference
	1 radio link to be removed
	
	Set to same code as assigned for cell 2~~Set to an unknown scrambling code not assigned to any cells.~~

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Integrity check info	Not Checked
Failure cause	Check to see if it's set to 'Invalid configuration'

8.3.4.4.5   Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message, setting "Invalid configuration" 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: <u>Reception of an ACTIVE SET UPDATE message in wrong state</u>~~Combined radio link addition and removal (active set is full)~~

8.3.4.5.1   Definition

8.3.4.5.2   Conformance requirement

If the UE is in another state than CELL_DCH state upon reception of the ACTIVE SET UPDATE message, the UE shall transmit an ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC.

~~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~~transmit an ACTIVE SET UPDATE FAILURE message when it receives an ACTIVE SET UPDATE message in any state other then CELL_DCH.

8.3.4.5.4   Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) in cell 1 as specified in clause 7.4 of TS 34.108.

~~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 (The assumed maximum number for active set is 2.)~~

Test Procedure

Table 8.3.4.5

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-60	-60

Table 8.3.4.5 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE establishes a radio access bearer service in the CELL_FACH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.2. SS begins to configure the new radio link to be added from cell 2 and 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" indicating the addition of cell 2 into the active set. When the UE receives this message, UE shall transmit ACTIVE SET UPDATE FAILURE message, with the IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state", on the uplink DCCH using AM RLC ~~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				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.5~~The UE is in the CELL_DCH state in cell 1 and cell 2.~~
2			Void	~~The SS configures an new radio link in cell 3, and starts reception and transmission using cell 3.~~
3	←		ACTIVE SET UPDATE	The SS transmit this 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 FAILURE~~COMPLETE~~	IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".~~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 is defined in Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	150
- Downlink DPCH info for each RL	
- DPCH frame offset	0

~~ACTIVE SET UPDATE~~

~~The message to be used in this test case is identical to the same message sub-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 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~~
~~- Spreading factor~~	~~512~~
~~- Code Number~~	~~For each DPCH, assign the same code number in the current code given in cell 3.~~
~~- Scrambling code change~~	~~Not Present~~
~~- TPC Combination Index~~	~~0~~
~~- SSDT Cell Identity~~	~~Not Present~~
~~- Close loop timing adjustment mode~~	~~Not Present~~
~~- TFCI Combining Indicator~~	~~Not Present~~
~~- SCCPCH information for FACH~~	~~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 1, the UE shall not transmit MEASUREMENT REPORT message.

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value " Message not compatible with receiver state " shall be set in IE "Protocol Error Information".

~~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   Void

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 <u>does not include any IEs except IE "Message Type"</u>~~omits a conditional IE.~~ and ~~It~~ shall transmit an ACTIVE SET UPDATE FAILURE message which set value "protocol error" in IE "failure cause" and also value "<u>ASN.1 violation or encoding error</u>~~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 <u>and transmits an ACTIVE SET UPDATE FAILURE message</u> when it receives an <u>invalid</u> 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 active.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) ~~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 (Integrity protection algorithm is not applied at the start of test)

Test Procedure

Table 8.3.4.7

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-60	-60

Table 8.3.4.7 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in CELL_DCH in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.7. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. ~~SS requests that cell 2 be added into the active set by performing step 1 to 3 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 which does not include any IEs except IE "Message Type", ~~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~~. The UE ~~It~~ shall ~~then~~ transmit ~~send~~ an ACTIVE SET UPDATE FAILURE message, stating the reason "ASN.1 violation or encoding error ~~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				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.7~~The UE is CELL_DCH state in cell 1.~~
2	→		MEASUREMENT REPORT	~~SS executes step 1 to 3 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 does not includes~~any IEs except IE~~"Message Type"~~"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 "ASN.1 violation error or encoding error~~conditional information element error~~" in IE "protocol error information". ~~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~~ Annex A~~the default message content clause, with the following exceptions:~~

Information Element	Value/remark
All IEs~~Integrity Check Info~~	Not Present
~~- 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 '~~ASN.1 violation or encoding error~~Conditional information element error~~'

8.3.4.7.5   Test Requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall ~~report a protocol error by~~ transmit~~ting the~~ an ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "ASN.1 violation or encoding error~~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 from GSM to UTRAN

The content of this clause has been moved to 3GPP TS 51.010-1, clause 60.

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 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/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM AMR	U10	8.3.7.1	1	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM EFR	U10	8.3.7.1	2	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.1	3	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM HR	U10	8.3.7.1	4	call active state
UTRAN (Streaming/unknown/ uplink:14.4 DL:14.4 kbps/CS RAB + uplink: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/ uplink:28.8 DL:28.8 kbps/CS RAB + uplink: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/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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/ uplink:28.8 DL:28.8 kbps/CS RAB + uplink: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/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U1	8.3.7.4	1	During call establishment
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink: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 HANDOVER FROM UTRAN 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 the present document.

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 HANDOVER FROM UTRAN COMMAND.

8.3.7.1.4   Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 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 HANDOVER FROM UTRAN 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	←		HANDOVER FROM UTRAN COMMAND-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 HANDOVER FROM UTRAN COMMAND-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 execution:

I HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 3

For execution 2:

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 2

For execution 3:

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
- Message sequence number	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE system	Single GSM message
- 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 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

For execution 4:

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE system	Single GSM message
- 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 51.010, 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 HANDOVER FROM UTRAN 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 the present document.

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 HANDOVER FROM UTRAN COMMAND.

8.3.7.2.4   Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 or clause 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/uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,

- UE supports UTRAN Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,

- UE supports UTRAN Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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/uplink:14.4 DL:14.4 kbps/CS RAB + uplink: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 HANDOVER FROM UTRAN 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/uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 2); Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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	←		HANDOVER FROM UTRAN COMMAND 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 HANDOVER FROM UTRAN COMMAND-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 execution :

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010, 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 51.010, except that the Description of a multi-slot configuration supporting 14.4 kbps user data.

For execution 2:

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010, 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 51.010, except that the Description of a multi-slot configuration supporting 28.8 kbps user data.

For execution 3:

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010, except that the Description of a multi-slot 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 HANDOVER FROM UTRAN 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 the present document.

   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 HANDOVER FROM UTRAN COMMAND.

8.3.7.3.4   Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 or clause 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/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,

- UE supports UTRAN Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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/uplink:28.8 DL:28.8 kbps/CS RAB + uplink: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 HANDOVER FROM UTRAN 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/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink: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		←	HANDOVER FROM UTRAN COMMAND-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 HANDOVER FROM UTRAN COMMAND-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 execution 1:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution 2:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution 3:

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 HANDOVER FROM UTRAN 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 the present document.

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 HANDOVER FROM UTRAN COMMAND.

8.3.7.4.4   Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 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 HANDOVER FROM UTRAN 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	←		HANDOVER FROM UTRAN COMMAND-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 HANDOVER FROM UTRAN COMMAND-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

HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- 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 51.010 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 HANDOVER FROM UTRAN 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 HANDOVER FROM UTRAN FAILURE message to the network on the old channel in UTRAN cell when it receives an HANDOVER FROM UTRAN 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 51.010 clause 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 HANDOVER FROM UTRAN 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 HANDOVER FROM UTRAN 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	←		HANDOVER FROM UTRAN COMMAND-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 HANDOVER FROM UTRAN COMMAND-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	→		HANDOVER FROM UTRAN FAILURE	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.

HANDOVER FROM UTRAN FAILURE

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink HANDOVER FROM UTRAN COMMAND –GSM message
Integrity check info	The presence of this IE is dependent on IXIT statements in 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.
Inter-RAT handover failure	
-Inter-RAT handover failure cause	physical channel failure
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	Is its presence required, is for FFS

8.3.7.5.5   Test requirement

After step n+1 the SS shall receive HANDOVER FROM UTRAN FAILURE message on the old channel of the UTRAN cell.

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.]

CR-Form-v5

CHANGE REQUEST

⌘ **34.123-1** CR **132** ⌘**rev** **-** ⌘ Current version: **4.1.0** ⌘

*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: ⌘	Modifications and Corrections of GMM test case	
Source: ⌘	Sony Corporation	
Work item code: ⌘	TEI	*Date:* ⌘ 21 February 2002
Category: ⌘	**F**	*Release:* ⌘ REL-4

Use <u>one</u> of the following categories:
F (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 <u>one</u> 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 clarify the condition for activate cell and deactivate cell, according to TS34.108. - It is necessary to change each test case, based on the changes in TS51.010-1 clause 44. - It is necessary to correct some test cases.
Summary of change: ⌘	**1. Clarification of the condition for activate cell and deactivate cell in multi-cell environment, according to TS34.108** In order to clarify the condition for multi-cell environment, the comment for cell type in the Expected sequence is modified. **2. Modifications and corrections for each test case.** 2.1 For subclause 12.2.2.8 "Combined PS attach / abnormal cases / attempt counter check / miscellaneous reject causes" • Step5 and Step6, Step8 and Step9, Step11 and Step12 in the Expected sequence is exchanged each other because step ordering is upside-down. • PS attach procedure is inserted after step21 of the Expected sequence because this procedure is missing. 2.2 For subclause 12.4.1.6 "Routing area updating / abnormal cases / change of cell into new routing area" • The Related ICS/IXIT statement is corrected because the Related ICS/IXIT is inconsistent with the Expected sequence. 2.3 For subclause 12.4.2.5a "Combined routing area updating / rejected / roaming not allowed in this location area" • In step21 of the expected sequence for the test procedure1, the routing area

identity RAI-6 is replaced with RAI-2.

- In order to avoid an initiation of a MM Location update procedure before the Routing Area Update procedure is initiated, the comments in step7 of the Expected sequence for the test procedure 1 and 2 is corrected.

- In relation to the above-mentioned correction, the initial conditions for the Test procedure 1 and 2 are corrected as follows.

2.4 For subclause 12.3.1.7 "PS detach / accepted / IMSI detach"

- The comment in step14 of the Expected sequence is corrected. According to TS 23.060 clause 6.9.1.3.1 paragraph 1) and clause 6.9.3.2 paragraph 1), the update type in this step is "Combined RA/LA updating with IMSI attach".

- The Related ICS/IXIT statement is corrected.

2.5 For subclause 12.3.1.6 "PS detach / accepted / PS/IMSI detach"

- The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.

2.6 For subclause 12.3.1.8 "PS detach / abnormal cases / change of cell into new routing area"

- The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.

2.7 For subclause 12.3.1.9 "PS detach / abnormal cases / PS detach procedure collision"

- The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.

2.8 For subclause 12.4.2.3 "Combined routing area updating / RA only accepted"

- The comments in step3 and step31 of the Expected sequence are corrected because the attach type "PS attach while IMSI attached" is missing.

2.9 For subclause 12.4.3.3 "Periodic routing area updating / no cell available / network mode I"

- In order to clarify the test scenario, the conformance requirement of this test case is corrected.

- The comment in the step12 of the Expected sequence is corrected because there is a case that TMSI status IE does not exist in ROUTING AREA UPDATE REQUEST message.

- The comments in step7 and 11 are corrected.

2.10 For subclause 12.2.2.7a "Combined PS attach / rejected / location area not allowed"

- MM location updating procedure is added after step 20 of the Expected sequence because a non-auto attach UE may perform a location updating procedure before PS attach procedure is initiated.

2.11 For subclause 12.2.2.9   "Combined PS attach / abnormal cases / PS detach procedure collision"

- The Related ICS/IXIT statement is modified as follows. After the UE receives a DETACH REQUEST message with detach type 'Re-attach not required', the UE can attempt to re-attach without user intervention.

- In relation to the above-mentioned introduction, the comment in step9 of the Expected sequence is corrected.

2.12 For subclause 12.4.2.7   "Combined routing area updating / abnormal cases / attempt counter check / procedure timeout"

- In order to clarify the test scenario, initial condition of the UE is corrected.

- MM location updating procedure is added to the test procedure. When the UE is in U2 NOT UPDATED and MM IDLE substate ATTEMPTING TO UPDATE, UE shall perform a MM Location Update procedure.

- In relation to the above-mentioned modification, MM location updating procedure is added after step23 of the Expected sequence.

2.13 For subclause 12.6.1.2   "Authentication rejected by the network"

- The Conformance requirement is corrected to reflect the appropriate clause of the core specification (TS24.008).

- The reference document is corrected.

- In order to clarify the test scenario, the Test procedure is corrected.

- In order to clarify the test scenario, the Expected sequence is corrected.

- In relation to the above-mentioned correction, the Test requirement is corrected.

2.14 For subclause 12.3.1.4 "PS detach / abnormal cases / GMM common procedure collision"

- The test procedure is corrected because an appropriate time for checking the requirement that the UE does not send anything in case of procedure collision would cause repeated DETACH REQUEST messages in the expected sequence.

- In relation to the correction for the Test procedure, the Expected sequence is corrected.

- In relation to the correction for the Test procedure, the Test requirement is corrected.

3. Corrections

3.1 Technical correction for the each test case

3.1.1 For subclause 12.9.3 "Service Request / rejected / Illegal MS"

- A detach procedure , a GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step30 of the Expected sequence because this procedure is missing.

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

- DETACH REQUEST message in step13 of the Expected sequence is removed. The UE should not send DETACH REQUEST at power off if the UE earlier has

received SERVICE REJECT with cause "Illegal MS" as there is no GMM context to apply the detach on. The UE should not send any response at all.

3.1.2 For subclause 12.9.4 "Service Request / rejected / PS services not allowed"

- A detach procedure, a GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step30 of the Expected sequence because this procedure is missing.

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

- DETACH REQUEST message in step13 of the Expected sequence is removed. The UE should not send DETACH REQUEST at power off if the UE earlier has received SERVICE REJECT with cause "PS not allowed" as there is no GMM context to apply the detach on. The UE should not send any response at all.

3.1.3 For subclause 12.2.2.4 "Combined PS attach / rejected / IMSI invalid / illegal ME"

- The initial condition for the SS is corrected because a definition for cell C is missing.

3.1.4 For subclause 12.4.1.5 "Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes"

- The Test procedure is corrected in order to keep consistency with the decision in TSG-GERAN WG4 meeting #5 that GMM cause "Congestion" is selected for this test.

3.1.5 For subclause 12.9.6 "Service Request / rejected / PLMN not allowed"

- The comment in step16 of the Expected sequence is corrected.

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

3.1.6 For subclause 12.3.2.1 "PS detach / re-attach not required / accepted"

- The comment in step7 of the Expected sequence is corrected because SS initiate a PS detach procedure in this test case.

3.1.7 For subclause 12.9.5 "Service Request / rejected / MS identity cannot be derived by the network"

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

- A GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step15 of the Expected sequence because this procedure is missing.

3.1.8 For subclause 12.9.9 "Service Request / Abnormal cases / Routing area update procedure is triggered"

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

Consequences if not approved:	⌘	Inconsistencies with the core specification and editorial mistakes are left.

Clauses affected:	⌘	12.2.1.2, 12.2.1.3, 12.2.1.4, 12.2.1.5a, 12.2.1.5b, 12.2.1.6, 12.2.1.7, 12.2.2.4, 12.2.2.5, 12.2.2.6, 12.2.2.7a, 12.2.2.7b, 12.2.2.8, 12.2.2.9, 12.3.1.4, 12.3.1.6, 12.3.1.7, 12.3.1.8, 12.3.1.9, 12.3.2.1, 12.3.2.2, 12.3.2.5, 12.3.2.6, 12.4.1.1, 12.4.1.2, 12.4.1.3, 12.4.1.4a, 12.4.1.4b, 12.4.1.5, 12.4.1.6, 12.4.1.7, 12.4.1.8, 12.4.2.1, 12.4.2.2, 12.4.2.3, 12.4.2.4, 12.4.2.5a, 12.4.2.5b, 12.4.2.6, 12.4.2.7, 12.4.2.8, 12.4.2.9, 12.4.2.10, 12.4.3.3, 12.6.1.1, 12.6.1.2, 12.6.1.3.1, 12.6.1.3.2, 12.6.1.3.3, 12.8, 12.9.3, 12.9.4, 12.9.5, 12.9.6, 12.9.7b, 12.9.9, 12.9.11

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

Other comments:	⌘	Affects R99 and REL-4.

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

12.2.1.2 PS attach / rejected / IMSI invalid / illegal UE

12.2.1.2.1 Definition

12.2.1.2.2 Conformance requirement

1) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.

2) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

3) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE', the User Equipment shall delete the LAI.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'illegal UE'.

12.2.1.2.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A with MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in

MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2).

All three cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No (only if mode C not supported)

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'Illegal UE'. The SS checks that the UE does not perform PS attach in the same or another PLMN.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1	UE			The following messages are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5		<-	ATTACH REJECT	GMM cause = 'Illegal UE'.
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
9	UE			The UE initiates an attach by MMI or by AT command.
10	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
11		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~ Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
12	UE			Cell C is preferred by the UE.
13	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
14	UE			The UE initiates an attach by MMI or by AT command.
15	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
16	UE			If possible (see ICS) switch off is performed. Otherwise the power is removed.
17	UE			The UE is powered up or switched on.
18	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
19	UE			The UE initiates an attach (see ~~PICS~~ICS).
20		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
21		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
22		->	ATTACH COMPLETE	
23	UE			The UE is switched off or power is removed (see ICS).
24		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.2.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, 10, 13 and 15, UE shall:

- not send the ATTACH REQUEST message to SS, even if there is an instruction of attach request from MMI or from AT command.

At step20, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

12.2.1.3 PS attach / rejected / IMSI invalid / PS services not allowed

12.2.1.3.1 Definition

12.2.1.3.2 Conformance requirement

1) If the network rejects a PS attach procedure from the User Equipment with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.

2) If the network rejects a PS attach procedure from the User Equipment with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.3.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PS services not allowed' (no valid PS-subscription for the IMSI).

12.2.1.3.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).
Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No

USIM removal possible without powering down Yes/No

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The SS rejects a normal attach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach in another PLMN.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 17.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5		<-	ATTACH REJECT	GMM cause = 'PS services not allowed'
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
9	UE			If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
10	UE			The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
11		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
12		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
13		->	ATTACH COMPLETE	
14	UE			The UE is switched off or power is removed (see ICS).
15		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
16				~~The SS deactivates cell B and activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
17	UE			The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.3.5   Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step8, UE shall:

- not perform a PS attach procedure.

At step11, after the UE is switched on or a USIM is replaced, UE shall:

- perform the PS attach procedure.

12.2.1.4 PS attach / rejected / PLMN not allowed

12.2.1.4.1 Definition

12.2.1.4.2 Conformance requirement

1) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall:

   1.1 not perform PS attach when switched on in the same routing area or location area.

   1.2 not perform PS attach when in the same PLMN and when that PLMN is not selected manually.

   1.3 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

   1.4 store the PLMN in the 'forbidden PLMN' list.

2) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall perform PS attach when a new PLMN is entered.

3) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' and if after that the PLMN from which this rejection was received, is manually selected, the User Equipment shall perform a PS attach procedure.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.4.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PLMN not allowed'.

12.2.1.4.4 Method of test

12.2.1.4.4.1 Test procedure 1

Initial condition

System Simulator:

Four cells (not simultaneously activated), cell A in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell B in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell C in MCC1/MNC2/LAC2/RAC1 (RAI-9) and cell D in MCC2/MNC1/LAC1/RAC1 (RAI-2).
All four cells are operating in network operation mode II (in case of UE operation mode A). The PLMN of the four cells should NOT be that of the UE Home PLMN.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-8. UE is Idle Updated on cell A.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'PLMN not allowed'. The SS checks that the UE does not perform PS attach if activated in the same routing area or location area and performs PS attach only when a new PLMN is entered.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". Set the cell type of cell D to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-8
5	<-		ATTACH REJECT	GMM cause = 'PLMN not allowed'
6	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
7	UE			The following messages are sent and shall be received on cell B. The UE is switched off.
8		SS		~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
9	UE			The UE is powered up or switched on.
10	UE			Cell B is preferred by the UE.
11	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
12		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
13	UE			Cell C is preferred by the UE.
14	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
15		SS		The following messages are sent and shall be received on cell D. ~~The SS deactivates cell C and activates cell D.~~Set the cell type of cell C to the "Off cell". Set the cell type of cell D to the "Serving cell". (note)
16	UE			Cell D is preferred by the UE.
17	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A.
18	UE			The UE initiates an attach automatically, by MMI or by AT command.
19	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
20	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
21	->		ATTACH COMPLETE	
22	UE			The UE is switched off or power is removed (see ICS).
23	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.2.1.4.4.2 Test procedure 2

Initial condition

System Simurator:

One cell operating in network operation mode II: MCC2/MNC1/LAC1/RAC1 (RAI-2). The PLMN of the cell should NOT be that of the Mobile Station Home PLMN.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2. UE is Idle Updated on cell A.

Related ICS/IXIT statements

Support of PS service Yes/No
UE operation mode C Yes/No
UE operation mode A Yes/No (only if mode C not supported)
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'PLMN not allowed'. The subscribers access rights is changed to allow PS attach. Then the PLMN from which this rejection was received is manually selected and the SS check that a PS attach is performed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is set in UE operation mode C or A (see ~~PICS~~ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ~~PICS~~ICS).
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
4	<-		ATTACH REJECT	GMM cause = 'PLMN not allowed'
5	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds)
6	UE			The current PLMN is selected manually.
7	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A.
8	UE			The UE initiates an attach automatically, by MMI or by AT command.
9	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
10	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
11	->		ATTACH COMPLETE	
12	UE			The UE is switched off or power is removed (see ~~PICS~~ICS).
13	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

None.

12.2.1.4.5 Test requirements

Test requirements for test procedure 1

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, UE shall:

- not perform PS attach procedure.

UE shall perform the following actions depending on the PLMN or the routing area or the location area

Case 1) UE is in the same routing area or location area when the power is switched on,

At step11, UE shall:

- not perform PS attach procedure.

Case2) UE is in the same PLMN, and this PLMN is not selected manually

At step14, UE shall:

- not perform PS attach procedure.

Case3) UE is in a new PLMN.

At step19, UE shall:

- perform the PS attach procedure.

Test requirements for test procedure 2

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, UE shall:

- not perform PS attach procedure.

At step9, when the UE is in the new PLMN, and this PLMN is selected manually, UE shall

- perform the PS attach procedure.

12.2.1.5a PS attach / rejected / roaming not allowed in this location area

12.2.1.5a.1 Definition

12.2.1.5a.2 Conformance requirement

1) If the network rejects a PS attach procedure from the User Equipment with the cause 'roaming not allowed in this location area' the User Equipment shall:

   1.1 not perform PS attach when in the same location area.

   1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

   1.3 store the LA in the 'forbidden location areas for roaming' list.

    1.4   perform PS attach when a new location area is entered.

    1.5   Periodically search for its HPLMN.

2) The User Equipment shall reset the list of 'Forbidden location areas for roaming' when switched off or when the USIM is removed.

3) The UE shall be capable of storing at least 6 entries in the list of 'Forbidden location areas for roaming'.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.5a.3 Test purpose

Test purpose 1

To test that on receipt of a rejection using the 'roaming not allowed in this location area' cause code, the UE ceases trying to attach on that location area. Successful PS attach procedure is possible in other location areas.

Test purpose 2

To test that if the UE is switched off or the USIM is removed the list of 'forbidden location areas for roaming' is cleared.

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 3GPP TS 24.008 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.

12.2.1.5a.4 Method of test

12.2.1.5a.4.1 Test procedure 1

Initial condition

System Simulator:

    Three cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN), cell B in

    MCC2/MNC1/LAC2/RAC1 (RAI-6, Not HPLMN) and cell C in MCC2/MNC1/LAC1/RAC2 (RAI-7, Not HPLMN).

    All three cells are operating in network operation mode II.

User Equipment:

    The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

Related ICS/IXIT statements

    Support of PS service   Yes/No
    UE operation mode C   Yes/No
    UE operation mode A   Yes/No
    Switch off on button Yes/No
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'Roaming not allowed in this area'. A new attempt for a PS attach is not possible. Successful PS attach / detach procedures are performed in another location area. A new attempt for a PS attach is performed in the 1st location area. This attempt shall not succeed, as the LA is on the forbidden list.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 19.
2		SS		~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
5	<-		ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
6	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
7		SS		The following messages are sent and shall be received on cell B. ~~The SS Deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
8	UE			Cell B is preferred by the UE.
9	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
10	UE			The UE initiates an attach automatically, by MMI or by AT command.
11	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
12	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-6
13	->		ATTACH COMPLETE	
14	UE			The UE initiates a PS detach (without power off) by MMI or by AT command .
15	->		DETACH REQUEST	Detach type = 'normal detach, PS detach'
16	<-		DETACH ACCEPT	
17		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~ Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
18	UE			Cell C is preferred by the UE.
19	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds). The UE is switched off or power is removed (see ICS)
20	UE			UE is switched off.
21		SS		~~The SS deactivates cell C.~~ Set the cell type of cell C to the "Off cell". (note)
22	UE			The UE is set in UE operation mode A if supported (see ICS) and the test is repeated from step 2 to step 20.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.2.1.5a.4.2 Test procedure 2

Initial condition

System Simulator:

One cell in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN) operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach updating with the cause value 'Roaming not allowed in this area'. The UE is switched off for 10 s and switched on again. The SS check that a PS attach is possible on the cell on which the PS attach had been rejected.

If USIM removal is possible without switching off: The SS rejects a PS attach with the cause value 'Roaming not allowed in this area'. The USIM is removed and inserted in the UE. The SS check that a PS attach is possible on the cell on which the PS attach had been rejected.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			If UE operation mode C is supported, the UE is set in UE operation mode C (see ~~PICS~~ICS). If UE operation mode C is not supported, the UE is set in UE operation mode A.
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
4	<-		ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
5	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
6	UE			If possible (see ICS) switch off is performed. Otherwise the power is removed.
7	UE			The UE is powered up or switched on and initiates an attach (see ICS).
8	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI
9	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
10	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
11	->		ATTACH COMPLETE	
12	UE			The UE is switched off or power is removed (see ICS).
13	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

12.2.1.5a.4.3   Test procedure 3

Initial condition

System Simulator:

Six cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN), cell B in MCC2/MNC1/LAC2/RAC1 (RAI-3, Not HPLMN), cell C in MCC2/MNC1/LAC3/RAC1 (Not HPLMN), cell D in MCC2/MNC1/LAC4/RAC1 (Not HPLMN), cell E in MCC2/MNC1/LAC5/RAC1 (Not HPLMN), cell F in MCC2/MNC1/LAC6/RAC1 (Not HPLMN).
All six cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach 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 perform an attach procedure on the non-allowed location areas.

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

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		The SS is set in network operation mode II ~~and activates cell A~~.
				Set the cell type of cell A to the "Serving cell".
				Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Off cell".
				Set the cell type of cell D to the "Off cell".
				Set the cell type of cell E to the "Off cell".
				Set the cell type of cell F to the "Off cell".
				(note)
2	UE			The UE is set in UE operation mode C (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach'
				Mobile identity = P-TMSI-1
				P-TMSI-1 signature
				Routing area identity = RAI-2
5	<-		ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
6	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds)
7		SS		The following messages are sent and shall be received on cell B.
				~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell".
				Set the cell type of cell B to the "Serving cell".
				(note)
8	UE			Cell B is preferred by the UE.
9	UE		Registration on CS	See TS 34.108
				This is applied only in case of UE operation mode A.
				Parameter mobile identity is IMSI.
10	UE			The UE initiates an attach automatically, by MMI or by AT command.
11	->		ATTACH REQUEST	Attach type = 'PS attach'
				Mobile identity = IMSI
12	<-		ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
13	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
14		SS		The following messages are sent and shall be received on cell C.
				~~The SS deactivates cell B and activates cell C.~~ Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Serving cell".
				(note)
15	UE			Cell C is preferred by the UE.
16	UE		Registration on CS	See TS 34.108
				This is applied only for UE in UE operation mode A.
				Parameter mobile identity is IMSI.
17	UE			The UE initiates an attach automatically, by MMI or by AT command.
18	->		ATTACH REQUEST	Attach type = 'PS attach'
				Mobile identity = IMSI
19	<-		ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
20	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
				The following messages are sent and shall be received on cell D.

Step	Direction UE SS	Message	Comments
21	SS		~~The SS deactivates cell C and activates cell D.~~Set the cell type of cell C to the "Off cell". Set the cell type of cell D to the "Serving cell". (note)
22	UE		Cell D is preferred by the UE.
23	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
24	UE		The UE initiates an attach automatically, by MMI or by AT command.
25	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
26	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
27	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds).
28	SS		The following messages are sent and shall be received on cell E. ~~The SS deactivates cell D and activates cell E.~~Set the cell type of cell D to the "Off cell". Set the cell type of cell E to the "Serving cell". (note)
29	UE		Cell E is preferred by the UE.
30	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
31	UE		The UE initiates an attach automatically, by MMI or by AT command.
32	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
33	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
34	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds).
35	SS		The following messages are sent and shall be received on cell F. ~~The SS deactivates cell E and activates cell F.~~Set the cell type of cell E to the "Off cell". Set the cell type of cell F to the "Serving cell". (note)
36	UE		Cell F is preferred by the UE.
37	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A.
38	UE		The UE initiates an attach automatically, by MMI or by AT command.
39	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
40	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
41	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds)
42	SS		The following messages are sent and shall be received on cell E. ~~The SS deactivates cell F and activates cell E.~~Set the cell type of cell E to the "Serving cell". Set the cell type of cell F to the "Off cell". (note)
43	SS		Cell E is preferred by the UE.
44	UE		The UE initiates an attach automatically, by MMI or by AT command.
45	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds).

Step	Direction		Message	Comments
	UE	SS		
46		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell E and activates cell C.~~Set the cell type of cell C to the "Serving cell". Set the cell type of cell E to the "Off cell". (note)
47		SS		Cell C is preferred by the UE.
48	UE			The UE initiates an attach automatically, by MMI or by AT command.
49	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
50		SS		The following messages are sent and shall be received on cell A. ~~The SS deactivates cell C and activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell C to the "Off cell". (note)
51		SS		Cell A will be preferred by the UE.
52	UE			The UE initiates an attach automatically, by MMI or by AT command.
53	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.2.1.5a.4.4 Test procedure4

Initial condition

System Simulator:

Two cells, cell A in MCC2/MNC1/LAC1/RAC1 (not HPLMN, RAI-2) and cell B in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1).
Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'Roaming not allowed in this area A second cell belonging to the HPLMN is activated. It is checked that the UE returns to its HPLMN.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
5		<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
6	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
7		SS		The following messages are sent and shall be received on cell B. ~~Activate cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
8	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
9	UE			The UE initiates an attach automatically, by MMI or by AT command.
10		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
11		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
12		->	ATTACH COMPLETE	
13	UE			The UE is switched off or power is removed (see ICS).
14		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.5a.5 Test requirements

Test requirements for Test procedure1

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform the PS attach procedure.

At step11, when the new location area is entered, UE shall:

- perform the PS attach procedure

At step19, when the rejected location area is entered, UE shall

- not perform PS attach procedure.

Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, after the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step9, when the UE is switched off or USIM is replaced, UE shall:

- perform the PS attach procedure.

Test requirements for Test procedure3

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, 13, 20, 27, 34 and 41, after the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step11, 18, 25, 32 and 39 , UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step45, 49 and 53, UE shall:

- not perform PS attach procedure.

Test requirements for Test procedure4

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step10, when a new location area is entered, UE shall:

- perform the PS attach procedure.

12.2.1.5b   PS attach / rejected / No Suitable Cells In Location Area

12.2.1.5b.1   Definition

12.2.1.5b.2   Conformance requirement

(1) If the network rejects a PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

   1.1 not perform PS attach when in the same location area.

   1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

   1.3 store the LA in the 'forbidden location areas for roaming' list.

   1.4 perform PS attach when a new location area is entered.

Reference

3GPP TS 24.008 clauses 4.7.3.1.

12.2.1.5b.3   Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'No Suitable Cells In Location Area'.

12.2.1.5b.4   Method of test

Initial condition

System Simulator:

   Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

   All three cells are operating in network operation mode II.

User Equipment:

   The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

   Support of PS service   Yes/No
   UE operation mode A   Yes/No
   Switch off on button Yes/No
   Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN and shall perform PS attach procedure in that cell.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		~~The SS activates three cells simultaneously.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
4	<-		ATTACH REJECT	GMM cause = 'No Suitable Cells In Location Area'
5		SS		The SS initiates the RRC connection release. The following message are sent and shall be received on cell B.
6	UE		Registration on CS	See TS 34.108
7	UE			The UE initiates an attach automatically, by MMI or by AT command.
8	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
9	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
10	->		ATTACH COMPLETE	
11	UE			The UE is switched off or power is removed (see ICS).
12	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.5b.5   Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

12.2.1.6 PS attach / abnormal cases / access barred due to access class control

12.2.1.6.1 Definition

12.2.1.6.2 Conformance requirement

1) The UE shall not perform PS attach procedure, but stays in the current serving cell and applies normal cell reselection process.

2) The User Equipment shall perform the PS attach procedure when:

   2.1 Access is granted.

   2.2 Cell is changed.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.6.3 Test purpose

Test purpose1

To test the behaviour of the UE in case of access class control (access is granted).

Test purpose2

To test the behaviour of the UE in case of access class control (Cell is changed).

12.2.1.6.4 Method of test

12.2.1.6.4.1 Test procedure1

Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is initially indicated to be barred.

System Simulator:

   One cell operating in network operation mode II.
   Access class x barred.

User Equipment:

   The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

   Support of PS service   Yes/No

   UE operation mode C   Yes/No

   UE operation mode A   Yes/No

   Switch off on button   Yes/No

   Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS indicates access class x barred. A PS attach procedure is not performed.

The SS indicates that access class x is not barred. A PS attach procedure is performed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The USIM is programmed with access class x.
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 12.
3	UE			The UE is powered up or switched on and attempts to initiate an attach (see ICS).
4	UE			No ATTACH REQUEST sent to SS, as access class x is barred (SS waits 30 seconds).
5		SS		The access class x is not barred anymore.
6	UE			The UE automatically initiates a PS attach.
7		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
8		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
9		->	ATTACH COMPLETE	
10	UE			The UE is switched off or power is removed (see ICS).
11		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
12		SS		The SS is set in network operation mode II.
13	UE			The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 11.

12.2.1.6.4.2 Test procedure2

Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is indicated to be barred on cell A.

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x barred, cell B in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x not barred.
Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-2, P-TMSI-2 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No

UE operation mode C   Yes/No

UE operation mode A Yes/No Switch off on button   Yes/No

Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS indicates access class x barred. A PS attach procedure is not performed.

A cell change is performed into a cell where access class x is not barred. A PS attach procedure is performed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE SS			The USIM is programmed with access class x. The following messages are sent and shall be received on cell A.
2	SS			The SS is set in network operation mode II~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
3	UE			The UE is set in UE operation mode C (see ICS).
4	UE			The UE is powered up or switched on and attempts to initiate an attach (see ICS).
5	UE			No ATTACH REQUEST sent to SS, as access class x is barred (SS waits 30 seconds).
6	SS			The following messages are sent and shall be received on cell B. ~~Activate cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			The UE automatically initiates an attach.
8		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
9		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
10		->	ATTACH COMPLETE	
11	UE			The UE is switched off or power is removed (see ICS).
12		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.6.5 Test requirements

Test requirements for Test procedure1

At step4, when the UE access class x is barred, UE shall:

- not perform a PS attach procedure.

At step7, when the UE access class x is granted, UE shall:

initiate the PS attach procedure.

Test requirements for Test procedure2

At step5, when the UE access class x is barred, UE shall:

- not perform a PS attach procedure.

At step8, when the serving cell is changed, UE shall:

- initiate the PS attach procedure.

12.2.1.7 PS attach / abnormal cases / change of cell into new routing area

12.2.1.7.1 Definition

12.2.1.7.2 Conformance requirement

When a change of cell into a new routing area is performed before ATTACH ACCEPT message is received by the UE, the UE shall abort the PS attach procedure and re-initiate it immediately.

Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.7.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.2.1.7.4 Method of test

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

> Support of PS service Yes/No
>
> UE operation mode C Yes/No
>
> UE operation mode A Yes/No (only if mode C not supported)
>
> Switch off on button Yes/No
>
> Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The UE initiates a PS attach procedure. The ATTACH ACCEPT message is delayed from the SS. The UE performs a cell reselection to a cell in a new routing area. The UE shall re-initiate a PS attach procedure in the new routing area.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5		SS		No response to the ATTACH REQUEST message is given by the SS.
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note) Cell B is preferred by the UE.
7	UE			The UE automatically re-initiates the attach in the new cell.
8	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
9	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Attach result = 'PS only attached' Routing area identity = RAI-4
10	UE			The UE is switched off or power is removed (see ICS).
11	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.1.7.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected sequence.

At step8, when a change of cell into a new routing area is performed before ATTACH ACCEPT message or ATTACH REJECT message is received by the UE, UE shall:

- abort the PS attach procedure and re-initiate the PS attach procedure immediately with new information elements.

/********************* **Next changes** *********************/

12.2.2.4 Combined PS attach / rejected / IMSI invalid / illegal ME

12.2.2.4.1 Definition

12.2.2.4.2 Conformance requirement

1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall consider USIM invalid for PS and non-PS services until power is switched off or USIM is removed.

2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall delete the stored TMSI, LAI, CSKN, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Reference

3GPP TS 24.008 clause 4.7.3.2

12.2.2.4.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure of the UE with the cause 'Illegal ME'.

12.2.2.4.4 Method of test

Initial condition

System Simulator:

~~Two~~ Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1~~2~~/MNC1/LAC1/RAC2~~1~~ (RAI-~~4~~2), cell C in MCC2/MNC1/LAC1/RAC1(RAI-2).
~~Both~~ All three cells are operating in network operation mode I.

User Equipment:

The UE has a valid TMSI-1, P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
USIM removal possible without powering down Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'Illegal ME'. The SS checks that the UE does not perform PS attach in the same or another PLMN. CS services are not possible as the USIM is blocked for CS services. PS services are not possible as the USIM is blocked for PS services.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or '~~GPRS~~ PS attach while IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = valid TMSI available or IE is omitted
5	<-		ATTACH REJECT	GMM cause 'Illegal ME'.
6	UE		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
7	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
8	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services
9	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
10	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
11	UE			No response from the UE to the request. This is checked for 10 seconds.
12		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
13	UE			Cell B is preferred by the UE.
14	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
15	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services
16	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
17		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell C and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
18	UE			Cell C is preferred by the UE.
19	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
20	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for PS services
21	UE			No response from the UE to the request. This is checked for 10 seconds.
22	UE			If possible (see ~~PICS~~ICS) USIM removal is performed. Otherwise if possible (see ~~PICS~~ICS) switch off is performed. Otherwise the power is removed.

Step	Direction		Message	Comments
	UE	**SS**		
23	UE			The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
24	UE			Step 25 is only performed for non-auto attach UE.
25	UE		Registration on CS	A location updating procedure is initiated. See TS34.108 Parameter Mobile identity is IMSI.
26	UE			UE initiates an attach automatically (see ~~PICS~~ICS), by MMI or AT commands.
27		->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or '~~GPRS~~ PS attach while IMSI attached' Mobile identity = IMSI TMSI status = no valid TMSI available
28		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-2
29		->	ATTACH COMPLETE	
30		<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
31		->	RRC CONNECTION REQUEST	
32		<-	RRC CONNECTION SETUP	
33		->	RRC CONNECTION SETUP COMPLETE	
34		->	PAGING RESPONSE	Mobile identity = TMSI-2
35		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
36		->	RRC CONNECTION RELEASE COMPLETE	
37	UE			The UE is switched off or power is removed (see ICS).
38		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.2.4.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, 9 and 16, when the UE receives the paging message for CS domain, UE shall,

- not respond to the paging message for CS domain.

At step11 and 21, when the UE receives the paging message for PS domain, UE shall,

- not respond to the paging message for PS domain.

At step27, when the USIM is replaced, UE shall:

- perform the combined PS attach procedure.

At step34, when the UE receives the paging message for CS domain, UE shall,

- respond to the paging message for CS domain by sending the RAGING RESPONSE message.

12.2.2.5 Combined PS attach / rejected / PS services and non-PS services not allowed

12.2.2.5.1 Definition

12.2.2.5.2 Conformance requirement

1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services and non-PS services not allowed', the User Equipment shall consider USIM invalid for PS and non-PS services until power is switched off or USIM is removed.

2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services and non-PS services not allowed', the User Equipment shall delete the stored TMSI, LAI, CSKN, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Reference

3GPP TS 24.008 clause 4.7.3.2.

12.2.2.5.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure of the UE with the cause 'PS services and non-PS services not allowed'.

12.2.2.5.4 Method of test

Initial condition

System Simulator:

- Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).
  Both cells are operating in network operation mode I.

User Equipment:

- The UE has a valid TMSI-1, P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

- Support of PS service   Yes/No
  UE operation mode A   Yes/No
  Switch off on button   Yes/No
  Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a PS attach with the cause value 'PS services and non-PS services not allowed'. The SS checks that the UE does not perform PS attach in the same or another PLMN. CS services are not possible as the USIM is blocked for CS services. PS services are not possible as the USIM is blocked for PS services.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS~~GPRS~~ attach while IMSI attached' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH REJECT	GMM cause 'PS services and non-PS services not allowed'
6	UE			The SS verifies that the UE does not attempt to access the network. (SS waits 30 seconds).
7	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
8	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
9	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS Paging.
10	UE			No response from the UE to the request. This is checked for 10 seconds
11		SS		~~Cell A is deactivated and cell B is activated.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
12			(void)	
13	UE			The SS verifies that the UE does not attempt to access the network. (SS waits 30 seconds).
14	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
15	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
16	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
17	UE			No response from the UE to the request. This is checked for 10seconds.
18	UE			If possible (see ICS) switch off is performed. Otherwise the power is removed.
19	UE			The UE is powered up or switched.
20	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE. Parameter mobile identity is IMSI.
21	UE			UE initiates an attach automatically (see ~~PICS~~ICS), by MMI or AT commands.
22	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS~~GPRS~~ attach while IMSI attached' Mobile identity = IMSI TMSI status = no valid TMSI available
23	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-2

Step	Direction		Message	Comments
	UE	SS		
24	->		ATTACH COMPLETE	
25	<-		PAGING TYPE1	Mobile identity = TMSI-1
				Paging order is for CS services.
26	->		RRC CONNECTION REQUEST	
27	<-		RRC CONNECTION SETUP	
28	->		RRC CONNECTION SETUP COMPLETE	
29	->		PAGING RESPONSE	Mobile identity = TMSI-1
30	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
31	->		RRC CONNECTION RELEASE COMPLETE	
32	<-		PAGING TYPE1	Mobile identity = P-TMSI-1
				Paging is for PS services.
33	->		RRC CONNECTION REQUEST	
34	<-		RRC CONNECTION SETUP	
35	->		RRC CONNECTION SETUP COMPLETE	
36	->		SERVICE REQUEST	Service type = "paging response"
37	<-		RRC CONNECTION RELEASE	
38	->		RRC CONNECTION RELEASE COMPLETE	
39	UE			The UE is switched off or power is removed (see ICS).
40	->		DETACH REQUEST	Message not sent if power is removed.
				Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.2.5.5   Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8 and 14, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step10 and 17, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step22, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure.

At step29, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step36, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

12.2.2.6 Combined PS attach / rejected / PS services not allowed

12.2.2.6.1 Definition

12.2.2.6.2 Conformance requirement

1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.

2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

3) A PS class AUE shall perform an MM IMSI attach procedure.

Reference

3GPP TS 24.008 clause 4.7.3.2

12.2.2.6.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PS services not allowed'.

12.2.2.6.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).
Both cells are operating in network operation mode I.
ATT flag set to 1

User Equipment:

The UE has a valid TMSI, P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a normal attach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach. PS services are not possible. An UE operation mode A UE shall perform an MM IMSI attach.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is powered up or switched on.
2a	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE. Parameter mobile identity is TMSI-1.
2b	UE			UE initiates an attach automatically (see ~~PICS~~ICS), via MMI or AT commands.
3		->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS~~GPRS~~ attach while IMSI attached' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
4		<-	ATTACH REJECT	GMM cause 'PS services not allowed'
5	UE			An automatic MM IMSI attach procedure is initiated.
6	UE		Registration on CS	See TS 34.108 Location updating type = IMSI attach. The SS allocates TMSI-2.
7		<-	PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services.
8		->	RRC CONNECTION REQUEST	
9		<-	RRC CONNECTION SETUP	
10		->	RRC CONNECTION SETUP COMPLETE	
11		->	PAGING RESPONSE	Mobile identity = TMSI-2
12		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signaling link.
13		->	RRC CONNECTION RELEASE COMPLETE	
14		SS		The following messages are sent and shall be received on cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)~~The SS deactivates cell A and activates cell B.~~
15	UE			Cell B is preferred by the UE.
16	UE			A location updating procedure is initiated.
17	UE		Registration on CS	See TS 34.108 Location updating type = normal. The SS allocates TMSI-1.
18		<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
19		->	RRC CONNECTION REQUEST	
20		<-	RRC CONNECTION SETUP	
21		->	RRC CONNECTION SETUP COMPLETE	
22		->	PAGING RESPONSE	Mobile identity = TMSI-1
23		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
24		->	RRC CONNECTION RELEASE COMPLETE	
25		<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging is for PS services
26	UE			No response from the UE to the request. This is checked for 10seconds.
27	UE			If possible (see ICS) switch off is performed. Otherwise the power is removed.

Step	Direction		Message	Comments
	UE	SS		
27a	UE			If switch off is performed then UE performs IMSI detach procedure.
28	UE			The UE is powered up or switched.
28a	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE. Parameter mobile identity is TMSI-1.
28b	UE			UE initiates an attach automatically (see ~~PICS~~ICS), via MMI or AT commands.
29	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS~~GPRS~~ attach while IMSI attached' Mobile identity = IMSI
30	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-2 Routing area identity = RAI-2
31	->		ATTACH COMPLETE	
32	<-		PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services.
33	->		RRC CONNECTION REQUEST	
34	<-		RRC CONNECTION SETUP	
35	->		RRC CONNECTION SETUP COMPLETE	
36	->		PAGING RESPONSE	Mobile identity = TMSI-2
37	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
38	->		RRC CONNECTION RELEASE COMPLETE	
39	UE			The UE is switched off or power is removed (see ICS).
40	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.2.6.5   Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step6, if the UE is PS class A, UE shall:

- perform the MM IMSI attach procedure.

At step11, 22 and 36, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step26, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step29, UE shall:

- perform the PS attach procedure.

12.2.2.7a Combined PS attach / rejected / location area not allowed

12.2.2.7a.1 Definition

12.2.2.7a.2 Conformance requirement

1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:

    1.1   not perform combined PS attach when in the same location area.

    1.2   delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

    1.3   store the LA in the 'forbidden location areas for regional provision of service'.

2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:

    2.1   perform combined PS attach when a new location area is entered.

    2.2   delete the list of forbidden LAs when power is switched off.

Reference

3GPP TS 24.008 clauses 4.7.3.2.

12.2.2.7a.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

12.2.2.7a.4 Method of test

Initial condition

System Simulator:

    Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC2/RAC1 (RAI-3).
    All cells are operating in network operation mode I.

User Equipment:

    The UE has a valid TMSI, P-TMSI, P-TMSI signature and RAI.

Related ICS/IXIT statements

    Support of PS service   Yes/No
    UE operation mode A   Yes/No
    Switch off on button   Yes/No
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined PS attach with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform combined PS attach while in the location area, performs PS attach when a new location area is entered and deletes the list of forbidden LAs when switched off. CS services are not possible unless an IMSI attach procedure is performed.

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**		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or "PS Attach while IMSI attached" Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH REJECT	GMM cause 'Location Area not allowed'
6	UE			No LOCATION UPDATING REQ with type 'IMSI attach' is sent to the SS (SS waits 30 seconds).
7	<-		PAGING TYPE1	Mobile identity = TMSI Paging order is for CS services.
8	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
9	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
10	->			No response from the UE to the request. This is checked for 10 seconds
				The following messages are sent and shall be received on cell B.
11		SS		~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
12	UE			Cell B is preferred by the UE.
13	UE			No ATTACH REQUEST or LOCATION UPDATING REQ is sent to SS (SS waits 60 seconds)
15	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
16	UE			No response from the UE to the request. This is checked for 10seconds.
17	UE			The UE initiates an attach by MMI or AT command.
18				No attach is performed by the UE. This is checked for 10 seconds.
				The following messages are sent and shall be received on cell C.
19		SS		~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
20	UE			Cell C is preferred by the UE. Step20a is only performed for non-auto attach UE and is optional.
20a	UE		Registration on CS	Parameter Mobile identity is IMSI. See TS 34.108
20b	UE			UE initiates an attach automatically (see ICS) via MMI or AT commands.
21	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available

Step	Direction		Message	Comments
	UE	SS		
22		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-3
23	->		ATTACH COMPLETE	
24		<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
25	->		RRC CONNECTION REQUEST	
26		<-	RRC CONNECTION SETUP	
27	->		RRC CONNECTION SETUP COMPLETE	
28	->		PAGING RESPONSE	Mobile identity = TMSI-1
29		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
30	->		RRC CONNECTION RELEASE COMPLETE	
31		<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
32	->		RRC CONNECTION REQUEST	
33		<-	RRC CONNECTION SETUP	
34	->		RRC CONNECTION SETUP COMPLETE	
35	->		SERVICE REQUEST	Service type = "paging response"
36		<-	RRC CONNECTION RELEASE	
37	->		RRC CONNECTION RELEASE COMPLETE	
38	UE			The UE is switched off or power is removed (see ICS).
39	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'
40	UE			The following messages are sent and shall be received on cell B. ~~The SS deactivates cell C and activates cell B.~~ Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note) Cell B is preferred by the UE.
41	UE			The UE is powered up or switched on and initiates an attach (see ICS).
42				Step 43 is only performed for non-auto attach UE.
43	UE		Registration on CS	See TS 34.108
44	UE			UE initiates an attach automatically (see ~~PICS~~ICS), by MMI or AT commands.
45	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or "PS Attach while IMSI attached" Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-3
46		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-4
47	->		ATTACH COMPLETE	
48		<-	PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services.
49	->		RRC CONNECTION REQUEST	
50		<-	RRC CONNECTION SETUP	
51	->		RRC CONNECTION SETUP COMPLETE	
52	->		PAGING RESPONSE	Mobile identity = TMSI-2
53		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.

Step	Direction		Message	Comments
	UE	**SS**		
54	->		RRC CONNECTION RELEASE COMPLETE	
55		<-	PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
56	->		RRC CONNECTION REQUEST	
57		<-	RRC CONNECTION SETUP	
58	->		RRC CONNECTION SETUP COMPLETE	
59	->		SERVICE REQUEST	service type = "paging response"
60		<-	RRC CONNECTION RELEASE	
61	->		RRC CONNECTION RELEASE COMPLETE	
62	UE			The UE is switched off or power is removed (see ICS).
63	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.2.7a.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Location Area not allowed', UE shall:

- not initiate MM location updating procedure.

At step8, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step10 and 16, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step13 and 18, when the UE is in the same location area, UE shall:

- not perform PS attach procedure.

At step21, when the UE enters a new location area, UE shall

- perform the combined PS attach procedure.

At step28 and 52, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step35 and 59, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step45, when the UE is powered up or switched on, UE shall:

- perform the combined PS attach procedure.

12.2.2.7b Combined PS attach / rejected / No Suitable Cells In Location Area

12.2.2.7b.1 Definition

12.2.2.7b.2 Conformance requirement

1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

1.1 not perform combined PS attach when in the same location area.

1.2 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

1.3 store the LA in the 'forbidden location areas for roaming'.

2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

2.1 search for a suitable cell in a different location area on the same PLMN.

Reference

3GPP TS 24.008 clauses 4.7.3.2.

12.2.2.7b.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure with the cause 'No Suitable Cells In Location Area'.

12.2.2.7b.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

User Equipment:

The UE has valid TMSI, P-TMSI, P-TMSI signature and RAI

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined PS attach with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN and shall perform combined PS attach procedure in that cell

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		~~The SS activates three cells simultaneously.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
4	<-		ATTACH REJECT	GMM cause = 'No Suitable Cells In Location Area'
5		SS		The SS initiates the RRC connection release. The following message are sent and shall be received on cell B.
6	UE			The UE initiates an attach automatically, by MMI or by AT command.
7	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
8	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-•
9	->		ATTACH COMPLETE	
10	UE			The UE is switched off or power is removed (see ICS).
11	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.2.2.7b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected sequence.

At step7, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- initiate the combined PS attach procedure.

12.2.2.8 Combined PS attach / abnormal cases / attempt counter check / miscellaneous reject causes

12.2.2.8.1 Definition

12.2.2.8.2 Conformance requirement

1) When a combined PS attach procedure is rejected with the attempt counter less than five, the User Equipment shall repeat the combined PS attach procedure after T3311 timeout.

2) When a combined PS attach procedure is rejected with the attempt counter five, the User Equipment shall delete the stored TMSI, LAI, CKSN, P-TMSI, P-TMSI signature, PS CKSN and RAI and start T3302.

3) When the T3302 expire, a new combined PS attach procedure shall be initiated.

GMM cause codes that can be selected are:

'IMSI unknown in HLR'

'UE identity cannot be derived by the network'

'Network failure'

'Congestion'

'retry upon entry into a new cell'

'Semantically incorrect message'

'Invalid mandatory information'

'Message type non-existent or not implemented'

'Message type not compatible with the protocol state'

'Information element non-existent or not implemented'

'Conditional IE error'

'Message not compatible with the protocol state'

'Protocol error, unspecified'

Reference

3GPP TS 24.008 clause 4.7.3.2.

12.2.2.8.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

12.2.2.8.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has a valid TMSI, P-TMSI, P-TMSI signature and RAI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A Yes/No Automatic PS attach procedure at switch on or power on Yes/No

Switch off on button Yes/No

Test procedure

The UE initiates a combined PS attach procedure (attempt counter zero).

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter one) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter two) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter three) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter four) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE shall not perform a new successful attach procedure after 15 seconds.

The UE initiates a combined PS attach procedure with attempt counter zero after T3302 expires without P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 10 minutes.

T3311; 15 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
4	<-		ATTACH REJECT	Arbitrary chosen GMM cause T3302 with value 10 min.
5	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
56		SS		The SS verifies that the time between the attach reject and attach request is T3311
6	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
7	<-		ATTACH REJECT	Arbitrarily chosen GMM cause T3302 with value 10 min.
8	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
89		SS		The SS verifies that the time between the attach reject and attach request is T3311
9	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
10	<-		ATTACH REJECT	Arbitrarily chosen GMM cause T3302 with value 10 min.
11	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
1112		SS		The SS verifies that the time between the attach reject and attach request is T3311
12	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
13	<-		ATTACH REJECT	Arbitrarily chosen GMM cause T3302 with value 10 min.
14	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
1415		SS		The SS verifies that the time between the attach reject and attach request is T3311
15	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
16	<-		ATTACH REJECT	Arbitrarily chosen GMM cause T3302 with value 10 min.
17	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
20	<-		PAGING TYPE1	Paging order is for PS services. Mobile identity = P-TMSI-1

Step	Direction		Message	Comments
	UE	SS		
21	UE			No response from the UE to the request. This is checked for 10seconds.
21a	->		ATTACH REQUEST	Attach type = 'Combined PS/IMSI attach' or 'PS attach while IMSI attached' Mobile identity = IMSI TMSI status =no valid TMSI available
22	SS			The SS verifies that the UE does not attempt to attach for T3302 .
23	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' 'PSGPRS attach while IMSI attached' Mobile identity = IMSI TMSI status = no valid TMSI available
24	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity P-TMSI-1 P-TMSI signature Mobile identity = TMSI-1 Routing area identity = RAI-1
25	->		ATTACH COMPLETE	
26	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services..
27	->		RRC CONNECTION REQUEST	
28	<-		RRC CONNECTION SETUP	
29	->		RRC CONNECTION SETUP COMPLETE	
30	->		PAGING RESPONSE	Mobile identity = TMSI-1
31	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
32	->		RRC CONNECTION RELEASE COMPLETE	
33	<-		PAGING TYPE1	Mobile identity = P-TMSI-1
33a	->		RRC CONNECTION REQUEST	
33b	<-		RRC CONNECTION SETUP	
33c	->		RRC CONNECTION SETUP COMPLETE	
34	->		SERVICE REQUEST	Service type = "paging response"
34a	<-		RRC CONNECTION RELEASE	
34b	->		RRC CONNECTION RELEASE COMPLETE	
35	UE			The UE is switched off or power is removed (see ICS).
36	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

Specific message contents

None.

12.2.2.8.5   Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the conditions described below.

Case1) A combined PS attach procedure is rejected with the attempt counter less than five

At step6, 9, 12 and 15, when the timer T3311 timeout has occurred, UE shall:

- repeat the combine PS attach procedure.

Case2) A combined PS attach procedure is rejected with the attempt counter five

At step21, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

Case3) The T3302 expires

At step23, UE shall:

- re-initiate the new combined PS attach procedure.

At step30, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step34, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

12.2.2.9 Combined PS attach / abnormal cases / PS detach procedure collision

12.2.2.9.1 Definition

12.2.2.9.2 Conformance requirement

1) When a DETACH REQUEST message is received by the UE (any cause except re-attach) while waiting for an ATTACH ACCEPT message or ATTACH REJECT message, the UE shall terminate the combined PS attach procedure and continue with the combined PS detach procedure.

2) When a DETACH REQUEST message is received by the UE (cause re-attach) while waiting for an ATTACH ACCEPT message or ATTACH REJECT message, the UE shall ignore the combined PS detach procedure and continue with the combined PS attach procedure.

Reference

3GPP TS 24.008 clause 4.7.3.2.

12.2.2.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.2.2.9.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has valid TMSI, P-TMSI, P-TMSI signature and RAI. UE is Idle Updated.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A Yes/No

Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Re-attach automatically when the network commands a detach with no cause value Yes/No

Test procedure

The UE initiates a combined PS attach procedure. The SS does not answer the combined PS attach procedure, but initiates a combined PS detach procedure (any cause except re-attach). The UE shall terminate the combined PS attach procedure and continue with the combined PS detach procedure.

The UE initiates a combined PS attach procedure. The SS does not answer the combined PS attach procedure, but initiates a combined PS detach procedure (cause re-attach). The UE shall ignore the combined PS detach procedure and continue with the combined PS attach. CS services are also possible.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
4		SS		The SS ignores the ATTACH REQUEST message and initiates a detach procedure.
5	<-		DETACH REQUEST	Detach type = 're-attach not required'
6	->		DETACH ACCEPT	
7			(void)	
8			(void)	
9	UE			The UE is attached by MMI or AT command if the UE does not re-attach automatically upon receiving a network initiated detach with no cause value, (see IXIT).
10	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
11		SS		The SS ignores the ATTACH REQUEST message and initiates a detach procedure.
12	<-		DETACH REQUEST	Detach type = 're-attach required'
13	UE			The UE ignores the DETACH REQUEST message and continue with the attach procedure
14	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-1
15	->		ATTACH COMPLETE	
16	<-		PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services.
17	->		RRC CONNECTION REQUEST	
18	<-		RRC CONNECTION SETUP	
19	->		RRC CONNECTION SETUP COMPLETE	
20	->		PAGING RESPONSE	Mobile identity = TMSI-2
21	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
22	->		RRC CONNECTION RELEASE COMPLETE	
23	<-		PAGING TYPE1	Paging order is for PS services. Mobile identity = P-TMSI-2
23a	->		RRC CONNECTION REQUEST	
23b	<-		RRC CONNECTION SETUP	
23c	->		RRC CONNECTION SETUP COMPLETE	
24	->		SERVICE REQUEST	Service type = "paging response"
24a	<-		RRC CONNECTION RELEASE	
24b	->		RRC CONNECTION RELEASE COMPLETE	
25	UE			The UE is switched off or power is removed (see ICS).
26	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

Specific message contents

None.

12.2.2.9.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the Detach type described below.

Case1) Detach type is not re-attach

At step6, UE shall:

- respond to DETACH REQUEST message by sending DETACH ACCEPT message.

Case2) Detach type is re-attach

At step13, UE shall:

- ignore the PS detach procedure.

At step15, UE shall:

- send the ATTACH COMPLETE message.

At step20, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step24, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

/******************* Next changes *********************/**

12.3.1.4 PS detach / abnormal cases / GMM common procedure collision

12.3.1.4.1 Definition

12.3.1.4.2 Conformance requirement

When any of the GMM common messages P-TMSI REALLOCATION COMMAND, GMM STATUS or GMM INFORMATION is received by the UE while waiting for a DETACH ACCEPT message with detach cause different from "power off", the UE shall ignore the GMM common message.

Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.4.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.4.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The following test procedure is repeated for sequence counter k = 1,2,3:

The UE performs a PS attach.

The UE initiates a PS detach. The SS initiates a P-TMSI REALLOCATION COMMAND message (k=1), a GMM STATUS message (k=2) and a GMM INFORMATION message (k-3). The UE shall ignore the GMM common messages and continue with the PS detach procedure.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

Expected Sequence

The test sequence is repeated for k = 1 … 3

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is set in UE operation mode C (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
4	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	UE			The UE initiates a detach (without power off) by MMI or AT command.
7	->		DETACH REQUEST	Detach type = 'normal detach, PS detach'
8A (k=1)		SS		The SS sends a P-TMSI REALLOCATION COMMAND message
9A (k=2)	<-		P-TMSI REALLOCATION COMMAND	
10A (k=3)	UE			The UE ignores the message. This is verified for 12 seconds.
8B11 (k=2)		SS		The SS sends a GMM STATUS message
9B12 (k=2)	<-		GMM STATUS	
10C13 (k=2)	UE			The UE ignores the message. This is verified for 12 seconds.
8C14 (k=3)		SS		The SS sends a GMM INFORMATION message
9C15 (k=3)	<-		GMM INFORMATION	
10C16 (k=3)	UE			The UE ignores the message which is verified for 12 seconds or if GMM INFORMATION message not implemented, sends a GMM STATUS with GMM Cause 'Message type non-existent or not implemented'.
1711	<-		DETACH ACCEPT	The SS responds to the DETACH REQUEST
1812	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
1913	UE			No response from the UE to the request. This is checked for 10 seconds.

Specific message contents

None.

12.3.1.4.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step10A, 10B13, 10C16 and 1319, when any of the GMM common messages P-TMSI REALLOCATION COMMAND, GMM STATUS or GMM INFORMATION is received by the UE while waiting for a DETACH ACCEPT message with detach cause different from "power off, UE shall:

- ignore any of the GMM common message.

/********************* **Next changes** *********************/

12.3.1.6 PS detach / accepted / PS/IMSI detach

12.3.1.6.1 Definition

12.3.1.6.2 Conformance requirement

The UE detach the IMSI for PS and non-PS services.

Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.6.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.1.6.4 Method of test

Initial condition

System Simulator:

- One cell operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

- Support of PS service   Yes/No
  UE operation mode A   Yes/No
  Switch off on button   Yes/No
  Automatic PS attach procedure at switch on or power on   Yes/No

  User requested combined PS and non-PS detached without powering off Yes/No

Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE sends a DETACH REQUEST message to the SS. When the UE receives the DETACH ACCEPT, the UE then deletes the logical link.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1	UE			The UE is set in UE operation mode A(see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	UE			The UE initiates a detach (without power off) by MMI or AT command.
7	->		DETACH REQUEST	Detach type = 'normal detach, combined PS / IMSI detach'
8	<-		DETACH ACCEPT	
9	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
10	UE			No response from the UE to the request. This is checked for 10 seconds.
11	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
12	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.

Specific message contents

None.

12.3.1.6.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step10, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step12, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

12.3.1.7 PS detach / accepted / IMSI detach

12.3.1.7.1 Definition

12.3.1.7.2 Conformance requirement

The UE shall detach for CS services.

Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.7.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.1.7.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

- The UE has a valid IMSI.

Related ICS/IXIT statements

- Support of PS service   Yes/No
  UE operation mode A   Yes/No
  Switch off on button   Yes/No
  Automatic PS attach procedure at switch on or power on   Yes/No
  ~~MMI controlled attach / detach procedures for non-PS services Yes/No~~

  <u>User requested non-PS detached Yes/No</u>

Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE performs an PS detach (for non-PS services).

CS services are not possible.

The UE attach for non-PS services by a routing area update procedure and CS services are again possible.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	UE			The UE initiates a detach for non-PS services (without power off) (see ICS).
7	->		DETACH REQUEST	Detach type = 'normal detach, IMSI detach'
8	<-		DETACH ACCEPT	
9	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
9a	->		RRC CONNECTION REQUEST	
9b	<-		RRC CONNECTION SETUP	
9c	->		RRC CONNECTION SETUP COMPLETE	
10	->		SERVICE REQUEST	service type = "paging response"
10a	<-		RRC CONNECTION RELEASE	
10b	->		RRC CONNECTION RELEASE COMPLETE	
11	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services. Paging order is for RRC connection.
12	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
13	UE			The UE initiates an attach for non-PS services by a RA update procedure (see ICS).
14	->		ROUTING AREA UPDATE REQUEST	Update type = "Combined RA/LA updating with IMSI attach"~~Combined RA/LA updating~~ P-TMSI-1 signature Routing area identity = RAI-1
15	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated" Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
16	->		ROUTING AREA UPDATE COMPLETE	
17	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
18	->		RRC CONNECTION REQUEST	
19	<-		RRC CONNECTION SETUP	
20	->		RRC CONNECTION SETUP COMPLETE	
21	->		PAGING RESPONSE	Mobile identity = TMSI-1
22	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
23	->		RRC CONNECTION RELEASE COMPLETE	
24	UE			The UE is switched off or power is removed (see ICS).
25	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

Specific message contents

None.

12.3.1.7.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step10, after the detach procedure (Detach type = 'normal detach, IMSI detach') is completed, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step12, after the detach procedure (Detach type = 'normal detach, IMSI detach') is completed, UE shall:

- not respond to the paging message for CS.

At step21, after the routing area updating procedure (Update type = 'Combined RA/LA updating') is completed, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

12.3.1.8 PS detach / abnormal cases / change of cell into new routing area

12.3.1.8.1 Definition

12.3.1.8.2 Conformance requirement

When a change of cell into a new routing area is performed before DETACH ACCEPT message is received by the UE, the UE shall abort the PS detach procedure and re-initiate it after the routing area update procedure.

Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.8.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
Both cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

User requested combined PS and non-PS detached without powering off Yes/No

Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE initiates a PS detach procedure. The DETACH ACCEPT message is delayed from the SS.

The UE performs a cell update into a new routing area.

The UE shall re-initiate a PS detach procedure when the routing area update procedure is finished.

The UE deletes the logical link.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
5	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
6	->		ATTACH COMPLETE	
7	UE			The UE initiates a PS detach (without power off) by MMI or AT command.
8	->		DETACH REQUEST	Detach type = 'normal detach, combined PS / IMSI detach'
9		SS		No response to the DETACH REQUEST message is given by the SS
10		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note) Cell B is preferred by the UE.
11	UE			The UE performs a RA update in the new cell.
12	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = valid TMSI available or IE omitted
13	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-4
14	->		ROUTING AREA UPDATE COMPLETE	
15	->		DETACH REQUEST	The detach is automatically re-attempted. Detach type = 'normal detach, combined PS / IMSI detach'
16	<-		DETACH ACCEPT	
NOTE:			The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".	

Specific message contents

None.

12.3.1.8.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step12, when a change of cell into a new routing area is performed before DETACH ACCEPT message is received by the UE, UE shall:

- abort a PS detach procedure.

- perform routing area updating procedure.

At step15, when the UE completes a routing area updating procedure, UE shall:

- re-initiate the PS detach procedure.

12.3.1.9 PS detach / abnormal cases / PS detach procedure collision

12.3.1.9.1 Definition

12.3.1.9.2 Conformance requirement

When a DETACH REQUEST is received by the UE while waiting for a DETACH ACCEPT message, the UE shall answer the network initiated PS detach procedure.

Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.9.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

User requested combined PS and non-PS detached without powering off Yes/No

Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE initiates a PS detach. The SS does not answer the detach procedure, but initiates a detach procedure (cause re-attach not required). The UE shall continue with the network initiated detach procedure.

The UE deletes the logical link.

PS and CS services are not possible.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is set in UE operation mode A(see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	UE			The UE initiates a PS detach (without power off) by MMI or AT command.
7	->		DETACH REQUEST	Detach type = 'normal detach, combined PS / IMSI detach'
8	<-		DETACH REQUEST	Detach type = 're-attach not required'
9	->		DETACH ACCEPT	The UE answers the network initiated detach.
10	<-		DETACH ACCEPT	The SS answers the UE initiated detach.
11	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
12	UE			No response from the UE to the request. This is checked for 10 seconds.
13	<-		PAGING TYPE 1	Mobile identity = TMSI-1 Paging order is for CS services.
14	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.

Specific message contents

None.

12.3.1.9.5   Test requirements

At step3, when the UE is powered up or switched on, UE shall:

-    initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE receives DETACH REQUEST message from SS before UE initiated PS detach procedure has been completed, UE shall:

-    send the DETACH ACCEPT message to SS.

At step12, when the UE receives the paging message for PS domain, UE shall:

-    not respond to the paging message for PS domain.

At step14, when the UE receives the paging message for CS domain, UE shall:

-    not respond to the paging message for CS domain.

12.3.2.1 PS detach / re-attach not required / accepted

12.3.2.1.1 Definition

12.3.2.1.2 Conformance requirement

The UE detach the IMSI for PS services.

Reference

3GPP TS 24.008 clause 4.7.4.2.

12.3.2.1.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.2.1.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE performs a PS attach procedure.

The SS sends a DETACH REQUEST message to the UE. The UE then deletes the logical link.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS is set in network operation mode II.
2	UE			The UE is set in UE operation mode A or C (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS).
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
6	->		ATTACH COMPLETE	
7	~~UE~~SS			The ~~SS~~UE initiates a PS detach ~~(without power off) by MMI or AT command~~.
8	<-		DETACH REQUEST	Detach type = 're-attach not required'
9	->		DETACH ACCEPT	
10	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services. PAGING TYPE1 (used for NW-mode II).
11	UE			No response from the UE to the request. This is checked for 10 seconds.

Specific message contents

None.

12.3.2.1.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE receives the DETACH REQUEST message from SS and the detach type IE indicates 're-attach not required', the UE shall:

- send DETACH ACCEPT message to SS.

At step11, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

12.3.2.2 PS detach / rejected / IMSI invalid / PS services not allowed

12.3.2.2.1 Definition

12.3.2.2.2 Conformance requirement

1) If the network performs a PS detach procedure with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.

2) If the network performs a PS detach procedure with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Reference

3GPP TS 24.008 clause 4.7.4.2.

12.3.2.2.3 Test purpose

To test the behaviour of the UE if the network orders a PS detach procedure with the cause 'PS services not allowed' (no valid PS-subscription for the IMSI).

12.3.2.2.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).
Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service Yes/No
UE operation mode C Yes/No
UE operation mode A Yes/No
USIM removal possible without powering down Yes/No
Switch off on button Yes/No
Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The SS performs a detach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach in another PLMN.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1	SS			The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 22.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
6		->	ATTACH COMPLETE	
7		<-	DETACH REQUEST	Detach type = 're-attach not required' Cause = 'PS services not allowed'
8		->	DETACH ACCEPT	
9	SS			The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
10	UE			Cell B is preferred by the UE. Step 11 is only performed for UE Operation Mode A.
11	UE		Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI.
12				The UE initiates an attach automatically (see ~~PICS~~ICS), by MMI or AT commands.
13	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
14	UE			If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
15	UE			The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
16		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
17		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
18		->	ATTACH COMPLETE	
19	UE			The UE is switched off or power is removed (see ICS).
20		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
21				Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)~~The SS deactivates cell B and activates cell A.~~

| 22 | UE | | The UE is set in UE operation mode A (see ICS) and the test is repeated from step 3 to step 18. |

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.3.2.2.5 Test requirements

At step4 and 15, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the UE receives the DETACH REQUEST message (Detach type = 're-attach not required', Cause = 'PS services not allowed') from SS, UE shall:

- send DETACH ACCEPT message.

At step13, UE shall:

- not perform PS attach procedure.

/******************** Next changes ********************/**

12.3.2.5 PS detach / rejected / location area not allowed

12.3.2.5.1 Definition

12.3.2.5.2 Conformance requirement

1) If the network performs a PS detach procedure with the cause 'location area not allowed' the User Equipment shall:

    1.1 not perform combined PS attach when in the same location area.

    1.2 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

    1.3 store the LA in the 'forbidden location areas for regional provision of service'.

2) If the network performs a PS detach procedure with the cause 'location area not allowed' the User Equipment shall:

    2.1 perform combined PS attach when a new location area is entered.

    2.2 delete the list of forbidden LAs when power is switched off.

Reference

3GPP TS 24.008 clauses 4.7.4.2.

12.3.2.5.3 Test purpose

To test the behaviour of the UE if the network orders the PS detach procedure with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

12.3.2.5.4 Method of test

Initial condition

System Simulator:

    Three cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC2 (RAI-2, Not HPLMN), cell B in MCC2/MNC1/LAC1/RAC2 (RAI-7, Not HPLMN), cell C in MCC2/MNC1/LAC2/RAC1 (RAI-6, Not HPLMN).
    All cells are operating in network operation mode I.

User Equipment:

    The UE has a valid IMSI.

Related ICS/IXIT statements

    Support of PS service   Yes/No
    UE operation mode A   Yes/No
    Switch off on button Yes/No
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS orders a PS detach with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform combined PS attach while in the location area, performs PS attach when a new location area is entered and deletes the list of forbidden LAs when switched off. CS services are not possible unless an IMSI attach procedure is performed.

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 UE	Direction SS	Message	Comments
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
5	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-2
6	->		ATTACH COMPLETE	
7	<-		DETACH REQUEST	Detach type = 're-attach not required' Cause 'Location Area not allowed'
8	->		DETACH ACCEPT	
9	UE			No LOCATION UPDATING REQ with type 'IMSI attach' is sent to the SS (SS waits 30 seconds).
10	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
11	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
12	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
13	UE			No response from the UE to the request. This is checked for 10 seconds
14		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
15	UE			Cell B is preferred by the UE.
16	UE			The UE initiates an attach automatically, by MMI or by AT command.
17	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds)
18	UE			No LOCATION UPDATING REQ with type 'IMSI attach' is sent to the SS (SS waits 30 seconds).
19	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
20	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
21	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
22				No response from the UE to the request. This is checked for 10 seconds
23		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
24	UE			Cell C is preferred by the UE.

Step	Direction		Message	Comments
	UE	**SS**		
25	UE		Registration on CS	Step 25 is only performed for non-auto attach UE. See TS34.108 Parameter mobile identity is IMSI.
26	UE			The UE initiates an attach automatically (See ICS), by MMI or AT command.
27	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
28	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-6
29	->		ATTACH COMPLETE	
30	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
31	->		RRC CONNECTION REQUEST	
32	<-		RRC CONNECTION SETUP	
33	->		RRC CONNECTION SETUP COMPLETE	
34	->		PAGING RESPONSE	Mobile identity = TMSI-1
35	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
36	->		RRC CONNECTION RELEASE COMPLETE	
37	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
38	->		RRC CONNECTION REQUEST	
39	<-		RRC CONNECTION SETUP	
40	->		RRC CONNECTION SETUP COMPLETE	
41	->		SERVICE REQUEST	service type = "paging response"
42	<-		RRC CONNECTION RELEASE	
43	->		RRC CONNECTION RELEASE COMPLETE	
44	UE			The UE is switched off or power is removed (see ICS).
45	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'
46	UE			The following messages are sent and shall be received on cell B. ~~The SS deactivates cell C and activates cell B.~~ <u>Set the cell type of cell B to the "Serving cell".</u> <u>Set the cell type of cell C to the "Off cell".</u> <u>(note)</u> Cell B is preferred by the UE.
47	UE			The UE is powered up or switched on and initiates an attach (see ICS). Step 48 is only performed for non-auto attach UE.
48	UE		Registration on CS	See TS34.108 Parameter mobile identity is TMSI-1
49	UE			UE initiates an attach automatically (see ~~PICS~~<u>ICS</u>), by MMI or AT commands.
50	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-6 TMSI status = valid TMSI available
51	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-7

Step	Direction		Message	Comments
	UE	SS		
52	->		ATTACH COMPLETE	
53		<-	PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services.
54	->		RRC CONNECTION REQUEST	
55		<-	RRC CONNECTION SETUP	
56	->		RRC CONNECTION SETUP COMPLETE	
57	->		PAGING RESPONSE	Mobile identity = TMSI-2
58		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
59	->		RRC CONNECTION RELEASE COMPLETE	
60		<-	PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
61	->		RRC CONNECTION REQUEST	
62		<-	RRC CONNECTION SETUP	
63	->		RRC CONNECTION SETUP COMPLETE	
64	->		SERVICE REQUEST	service type = "paging response"
65		<-	RRC CONNECTION RELEASE	
66	->		RRC CONNECTION RELEASE COMPLETE	
67	UE			The UE is switched off or power is removed (see ICS).
68	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.3.2.5.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the UE receive the DETACH REQUEST message (Detach type = 're-attach not required', Cause = 'Location Area not allowed') from SS, UE shall:

- send the DETACH ACCEPT message.

UE shall perform the following action depending on UE location.

1) UE is in the same location area.

At step9 and 18, UE shall:

- not perform location updating procedure.

At step11 and 20, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for PS domain.

At step13 and 22, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step17, UE shall;

- not perform PS attach procedure.

2) UE is in the new location area.

    At step27, UE shall;

    - perform the combined PS attach procedure.

    At step34, when the UE receives the paging message for CS domain with Mobile identity = IMSI, UE shall;

    - respond to the paging message for CS domain by sending the PAGING RESPONSE message.

    At step41, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:

    - respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step50, when the UE is powered up or switched on, UE shall:

    - initiate the PS attach procedure with the information elements specified in the above Expected Sequence

At step57, when the UE receives the paging message for CS domain with Mobile identity = IMSI, UE shall;

    - respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step64, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:

    - respond to the paging message for PS domain by sending the SERVICE REQUEST message.

12.3.2.6 PS detach / rejected / No Suitable Cells In Location Area

12.3.2.6.1 Definition

12.3.2.6.2 Conformance requirement

1. If the network performs a PS detach procedure with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

    1.1 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

    1.2 store the LA in the 'forbidden location areas for roaming'.

Reference

3GPP TS 24.008 clauses 4.7.4.2.

12.3.2.6.3 Test purpose

To test the behaviour of the UE if the network sends the DETACH REQUEST message with the cause 'No Suitable Cells In Location Area'.

12.3.2.6.4 Method of test

Initial condition

System Simulator:

    Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

    All three cells are operating in network operation mode II.

User Equipment:

    The UE has valid IMSI.

Related ICS/IXIT statements

Support of PS service	Yes/No
UE operation mode A	Yes/No
Switch off on button	Yes/No
Automatic PS attach procedure at switch on or power on	Yes/No

Test procedure

The SS sends a DETACH REQUEST message with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall not perform combined PS attach while in the same location area on the same PLMN. The SS checks that the UE shall perform PS attach when the UE enters a suitable cell in a different location area on the same PLMN.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		~~The SS activates three cells simultaneously.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	<-		DETACH REQUEST	Detach type = 're-attach not required' Cause 'No Suitable Cells In Location Area'
7	->		DETACH COMPLETE	
8	UE			The following message are sent and shall be received on cell B. The UE initiates an attach automatically, by MMI or by AT command.
9	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
10	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-•
11	->		ATTACH COMPLETE	
12	UE			The UE is switched off or power is removed (see ICS).
13	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.3.2.6.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

12.4 Routing area updating procedure

This procedure is used to update the actual routing area of an UE in the network.

12.4.1 Normal routing area updating

The routing area updating procedure is a GMM procedure used by PS UEs of UE operation mode A or C that are IMSI attached for PS services only.

12.4.1.1 Routing area updating / accepted

12.4.1.1.1 Definition

12.4.1.1.2 Conformance requirement

1) If the network accepts the routing area updating procedure and reallocates a P-TMSI, the UE shall acknowledge the new P-TMSI and continue communication with the new P-TMSI.

2) If the network accepts the routing area updating procedure from the UE without reallocation of the old P-TMSI, the UE shall continue communication with the old P-TMSI.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.1.3 Test purpose

To test the behaviour of the UE if the network accepts the routing area updating procedure.

The following cases are identified:

1) P-TMSI / P-TMSI signature is reallocated.

2) Old P-TMSI / P-TMSI signature is not changed.

12.4.1.1.4 Method of test

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

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

1) The UE sends a ROUTING AREA UPDATE REQUEST message. The SS reallocates the P-TMSI and returns ROUTING AREA UPDATE ACCEPT message with a new P-TMSI. The UE acknowledge the new P-TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE - SS is performed by the new P-TMSI. The UE will not answer signalling addressed to the old P-TMSI.

2) The UE sends a ROUTING AREA UPDATE REQUEST message. The SS accepts the P-TMSI and returns ROUTING AREA UPDATE ACCEPT message without any P-TMSI. Further communication UE - SS is performed by the P-TMSI.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 22.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS).
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
6	->		ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~Activate cell B with a lower signal strength than cell A The RF level of cell A is lowered until cell B is preferred by the UE.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
9	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
10	->		ROUTING AREA UPDATE COMPLETE	
11	<-		GMM INFORMATION	Message sent with P-TMSI-1
11b	->		GMM STATUS	Message sent in case the UE does not support reception of GMM information message Cause #97
12	<-		PAGING TYPE1	Mobile identity = P-TMSI-2 PAGING TYPE1 (used for NW-mode II). Paging order is for PS services.

Step	Direction		Message	Comments
	UE	**SS**		
13	UE			No response from the UE to the request. This is checked for 10 seconds.
14	SS			The following messages are sent and shall be received on cell A. ~~Set the signal strength of cell A to a lower signal strength than cell B The RF-level of cell B is lowered until cell A is preferred by the UE.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
15	UE			Cell A is preferred by the UE.
16		->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-4
17		<-	ROUTING AREA UPDATE ACCEPT	No new mobile identity assigned. P-TMSI not included. Update result = 'RA updated' P-TMSI-2 signature Routing area identity = RAI-1
18		<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services. PAGING TYPE 1 (used for NW-mode II).
18a		->	RRC CONNECTION REQUEST	
18b		<-	RRC CONNECTION SETUP	
18c		->	RRC CONNECTION SETUP COMPLETE	
19		->	SERVICE REQUEST	service type = "paging response"
19a		<-	RRC CONNECTION RELEASE	
19b		->	RRC CONNECTION RELEASE COMPLETE	
20	UE			The UE is switched off or power is removed (see ICS).
21		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
22	UE			The UE is set in UE operation mode A (see ICS) and the test is repeated from step 3 to step 21.

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.1.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step13, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-2, UE shall:

- not respond to the paging message for PS domain.

At step16, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step19, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

12.4.1.2 Routing area updating / rejected / IMSI invalid / illegal ME

12.4.1.2.1 Definition

12.4.1.2.2 Conformance requirement

1) If the network rejects a routing area updating procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.

2) If the network rejects a routing area updating procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'Illegal ME'.

12.4.1.2.4 Method of test

Initial condition

System Simulator:

> Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2).
> All three cells are operating in network operation mode II (in case of UE operation mode A)

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

> Support of PS service Yes/No
> UE operation mode C Yes/No
> UE operation mode A Yes/No (only if mode C not supported)
> USIM removal possible without powering down Yes/No
> Switch off on button Yes/No
> Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The SS rejects a routing area updating with the cause value 'Illegal ME'. The SS checks that the UE does not perform PS attach in the same or another PLMN.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The following messages are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not ~~included.Attach~~included. Attach result = 'PS only attached' Routing area identity = RAI-1
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' Routing area identity = RAI-1
9	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Illegal ME'
10	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 PAGING TYPE1 (used for NW-mode II). Paging order is for PS services.
11	UE			No response from the UE to the request. This is checked for 10 seconds.
12		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
13	UE			Cell C is preferred by the UE.
14	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
15	UE			If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
16	UE			The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
16a				Step 16b is only performed by UE in operation mode A
16b	UE		Registration on CS	See TS 34.108 Parameter mobile identity is IMSI.
17	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
18	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2

19	->	ATTACH COMPLETE	
20	UE		The UE is switched off or power is removed (see ICS).
21	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.2.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step11, after the routing area updating procedure is rejected with GMM cause = 'Illegal ME', UE shall;

- not respond to the paging message for PS domain.

At step14, UE shall,

- not initiate PS attach procedure.

At step17, after the UE is powered up or USIM is replaced, UE shall;

- initiate the PS attach procedure.

12.4.1.3 Routing area updating / rejected / UE identity cannot be derived by the network

12.4.1.3.1 Definition

12.4.1.3.2 Conformance requirement

If the network rejects a routing area updating procedure from the User Equipment with the cause 'UE identity cannot be derived by the network', the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Depending on the manufacturer the UE may or may not perform a PS attach procedure.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.3.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'UE identity cannot be derived by the network'.

12.4.1.3.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Automatic attach procedure when UE identity cannot be derived by the network   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a normal routing area updating with the cause value 'UE identity cannot be derived by the network'. The UE detach locally. A new PS attach may be performed.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1		SS		The following messages are sent and shall be received on cell A. The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity =P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
6	->		ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
8	UE			Cell B is preferred by the UE.
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
10	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'UE identity cannot be derived by the network'
11	UE			If an automatic attach procedure by the UE is not possible when the UE identity cannot be derived by the network (see ICS) goto step 19.
12	UE			An Automatic PS attach procedure is initiated (see ICS).
13	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
14	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
15	->		ATTACH COMPLETE	
16	UE			The UE is switched off or power is removed (see ICS).
17	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
18				Stop the sequence
19	<-		PAGING TYPE1	Mobile identity = P-TMSI-2 PAGING TYPE1 (used for NW-mode II). Paging order is for PS services.
20	UE			No response from the UE to the request, as the UE has detached locally. This is checked for 10 seconds.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.3.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the implementation of the UE.

Case 1) UE supports an Automatic PS attach procedure.

At step13, UE shall;

- initiate the PS attach procedure.

Case 2) UE does not support an Automatic PS attach procedure.

At step20, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

12.4.1.4a Routing area updating / rejected / location area not allowed

12.4.1.4a.1 Definition

12.4.1.4a.2 Conformance requirement

1) If the network rejects a routing area updating procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:

    1.1 not perform PS attach when in the same location area.

    1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

    1.3 store the LA in the 'forbidden location areas for regional provision of service'.

2) If the network rejects a routing area updating procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:

    2.1 perform PS attach when a new location area is entered.

    2.2 delete the list of forbidden LAs after switch off (power off).

Reference

3GPP TS 24.008 clauses 4.7.5.1.

12.4.1.4a.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

12.4.1.4a.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) , cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC2/RAC1 (RAI-3).
All cells are operating in network operation mode II.

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
USIM removal possible without powering down Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a routing area updating with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform PS attach while in the location area, performs PS attach 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 UE	Direction SS	Message	Comments
		SS		The following messages are sent and shall be received on cell C.
1		SS		~~The SS activates cell C.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 33.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell C is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-3
6	->		ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell C and activates cell B.~~Set the cell type of cell B to the "Serving cell". Set the cell type of cell C to the "Off cell". (note)
8		SS		Cell B is preferred by the UE.
8a				The following step is only performed for UE Operation Mode A.
8b	UE		Registration on CS	See TS34.108 Parameter mobile identity is IMSI
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-3
10	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Location Area not allowed'
11	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 PAGING TYPE1 (used for NW-mode II). Paging order is for PS services.
12	UE			No response from the UE to the request. This is checked for 10 seconds.
13		SS		The following messages are sent and shall be received on cell A. ~~The SS deactivates cell B and activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
14	UE			Cell A is preferred by the UE.
15	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds)
16		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell A and activates cell C.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
17	UE			Cell C is preferred by the UE.
17a				The following step is only performed for UE Operation Mode A.
17b	UE		Registration on CS	See TS34.108 Parameter mobile identity is IMSI

Step	Direction UE SS	Message	Comments
18	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
19	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-3
20	->	ATTACH COMPLETE	
21	UE		If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
22	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
23	UE		The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
24	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-3
25	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-3
26	->	ATTACH COMPLETE	
27	SS		The following messages are sent and shall be received on cell A. ~~The SS deactivates cell C and activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell C to the "Off cell". (note)
28			Cell A is preferred by the UE.
28a			The following step is only performed for UE Operation Mode A.
28b	UE	Registration on CS	See TS34.108 Parameter mobile identity is IMSI
29	->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-3
30	<-	ROUTING AREA UPDATE ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Update result = 'RA updated' Routing area identity = RAI-1
31	UE		The UE is switched off or power is removed (see ICS).
32	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
33	SS		The SS is set in network operation mode II.
34	UE		The UE is set in UE operation mode A (see ICS), cell A is switched off and the test is repeated from step 2 to step 32.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.4a.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step12, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step12 and 15, when in the same location area, UE shall

- not perform PS attach procedure.

At step18, when a new location area is entered, UE shall

- perform the PS attach procedure.

At step24, when the USIM is replaced , UE shall;

- perform the PS attach procedure.

At step29, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

12.4.1.4b   Routing area updating / rejected / No Suitable Cells In Location Area

12.4.1.4b.1   Definition

12.4.1.4b.2   Conformance requirement

1)   If the network rejects a routing area updating procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

   1.1 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

   1.2 store the LA or the PLMN identity in the 'forbidden location areas for roaming'.

   1.3 search for a suitable cell in a different location area on the same PLMN.

Reference

3GPP TS 24.008 clauses 4.7.5.1.

12.4.1.4b.3   Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure with the cause 'No Suitable Cells In Location Area'.

To test that the UE deletes the list of forbidden LAs when power is switched off'.

12.4.1.4b.4   Method of test

Initial condition

System Simulator:

   Four cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell D in MCC1/MNC1/LAC1/RAC2 (RAI-4),

   All three cells are operating in network operation mode II.

User Equipment:

The UE has valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
USIM removal possible without powering down Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a routing area updating with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
		SS		The following message are sent and shall be received on cell D.
1		SS		~~The SS activates cell D.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Serving cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell D is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
4	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
5	->		ATTACH COMPLETE	
6		SS		~~The SS deactivates Cell D and activates Cell A, Cell B and Cell C.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable neighbour cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C Cell A is preferred by the UE.
7	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-4
8	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'No Suitable Cells In Location Area' The following message are sent and shall be received on cell D.
9	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
10	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-3
11	->		ATTACH COMPLETE	
12	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.4b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, UE shall;

-   initiate the routing area updating procedure.

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

-   perform the PS attach procedure.

12.4.1.5 Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes

12.4.1.5.1 Definition

12.4.1.5.2 Conformance requirement

When a routing area updating procedure is rejected with the attempt counter less than five, the UE shall repeat the routing area updating procedure after T3330 timeout.

When a T3330 timeout has occurred during a routing area updating procedure with the attempt counter five, the UE shall start timer T3302.

When the T3302 expire, a new routing area updating procedure shall be initiated.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.5.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

12.4.1.5.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). The ATT-flag shall indicate that the MS should use IMSI attach/detach procedures.
Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure (attempt counter zero).

The SS rejects the routing area updating procedure with a GMM cause 'congestion' coderandom cause code.

The UE initiates a new routing area updating procedure (attempt counter one) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code~~random cause code~~.

The UE initiates a new routing area updating procedure (attempt counter two) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code~~random cause code~~.

The UE initiates a new routing area updating procedure (attempt counter three) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code~~random cause code~~.

The UE initiates a new routing area updating procedure (attempt counter four) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code~~random cause code~~.

The UE initiates a new routing area updating procedure with attempt counter five (after T3311 expires).

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code~~random cause code~~.

The UE shall not perform a new successful routing area updating procedure after T3311 seconds.

The UE initiates a routing area updating procedure with attempt counter zero after T3302 expires with the stored P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 12 minutes.

T3330; set to 15 seconds.

T3311; set to 15 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. <u>Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)</u>
2a	UE		Registration on CS	See TS 34.108 This step is applied only for UE in UE operation mode A. Parameter mobile identity is TMSI.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI not included. Attach result = 'PS only attached' P-TMSI-2 signature Routing area identity = RAI-1
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~<u>Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)</u>
7		SS		Cell B is preferred by the UE.
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
9	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
10		SS		The SS verifies that the time between the routing area updating requests is 15 seconds
11	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
12	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
13		SS		The SS verifies that the time between the routing area updating requests is 15 seconds
14	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
15	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
16		SS		The SS verifies that the time between the routing area updating requests is 15 seconds
17	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
18	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
19		SS		The SS verifies that the time between the routing area updating requests is 15 seconds

Step	Direction		Message	Comments
	UE	SS		
20	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
21	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
22	SS			The SS verifies that the UE does not attempt to attach for 10 minutes .
23	SS			The SS shall release the PS signalling connection.
23a	UE		Registration on CS	See TS 34.108 This step is applied only for UE in UE operation mode A. Parameter mobile identity is TMSI.
24	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
25	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-2 P-TMSI-3 signature Routing area identity = RAI-4
26	->		ROUTING AREA UPDATE COMPLETE	
27	UE			The UE is switched off or power is removed (see ICS).
28	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
29	->		IMSI DETACH INDICATION	This step is only performed for UE Operation Mode A. MS establish a RRC connection on lower layers to perform an IMSI detach. Message not sent if power is removed.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.5.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall:

- perform the routing area updating procedure.

UE shall perform the following actions depending on the conditions described below.

Case 1) At step11, 14, 17 and 20, a routing area updating procedure is rejected from SS with the attempt counter less than five,

UE shall:

- repeat the routing area updating procedure after T3330 timeout

Case2) At step22 a routing area updating procedure is rejected from SS with the attempt counter five

At step22, UE shall:

- not initiate a routing area updating procedure.

Case3) At step24, the T3302 expires

UE shall:

- initiate the new routing area updating procedure

12.4.1.6 Routing area updating / abnormal cases / change of cell into new routing area

12.4.1.6.1 Definition

12.4.1.6.2 Conformance requirement

When a change of cell into a new routing area is performed before the routing area updating procedure is finished, the UE shall abort the routing area updating procedure and re-initiate it in the new routing area.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.6.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.1.6.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) and cell C In MCC1/MNC1/LAC1/RAC3 (RAI-5).
All cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No ~~(only if mode C not supported)~~
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update into a new routing area. The UE shall re-initiate a routing area updating procedure in the new routing area.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 18.
2		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
6		->	ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
8		SS		Cell B is preferred by the UE.
9		->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
10		SS		No response to the ROUTING AREA UPDATE REQUEST message is given by the SS
11		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
12		SS		Cell C is preferred by the UE.
13		->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
14		<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-2 P-TMSI-3 signature Routing area identity = RAI-5
15		->	ROUTING AREA UPDATE COMPLETE	
16	UE			The UE is switched off or power is removed (see ICS).
17		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
18		SS		The SS is set in network operation mode II.
19	UE			The UE is set in UE operation mode A(see ICS)~~, cell C is deactivated and~~. Set the cell type of cell C to the "Off cell". ~~the~~ The test is repeated from step 2 to step 17.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.6.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the routing area update procedure.

At step13, when change of cell into a new routing area is performed before the routing area updating procedure is finished, UE shall:

- abort the routing area updating procedure.

- re-initiate new routing area updating procedure in the new routing area.

12.4.1.7 Routing area updating / abnormal cases / change of cell during routing area updating procedure

12.4.1.7.1 Definition

12.4.1.7.2 Conformance requirement

When a change of cell within a new routing area is performed before the routing area updating procedure is finished, the UE shall perform the cell update before the routing area updating procedure is finished.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.7.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.1.7.4 Method of test

Initial condition

System Simulator:

> Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) and cell C in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> All three cells are operating in network operation mode II.

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode C   Yes/No
> UE operation mode A   Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update within the routing area. The UE then waits for the ROUTING AREA UPDATE ACCEPT message.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach result = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI not included. Attach result = 'PS only attached' P-TMSI-2 signature Routing area identity = RAI-1
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7		SS		Cell B is preferred by the UE.
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1
9		SS		No response to the ROUTING AREA UPDATE REQUEST message is given by the SS
10		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
11		SS		Cell C is preferred by the UE.
12a	->		CELL UPDATE	Cell update cause = 'cell reselection'
12b	<-		CELL UPDATE CONFIRM	
13	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-2 P-TMSI-3 signature Routing area identity = RAI-4
14	->		ROUTING AREA UPDATE COMPLETE	
15	UE			The UE is switched off or power is removed (see ICS).
16	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.7.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall:

- initiate routing area update procedure.

At step12a, when a change of cell within a new routing area is performed, UE shall:

- perform the cell update before the routing area updating procedure is finished.

12.4.1.8 Routing area updating / abnormal cases / P-TMSI reallocation procedure collision

12.4.1.8.1 Definition

12.4.1.8.2 Conformance requirement

When a P-TMSI REALLOCATION COMMAND message is received by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall ignore the P-TMSI reallocation procedure and continue with the routing area updating procedure.

Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.1.8.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode C   Yes/No
UE operation mode A   Yes/No (only if mode C not supported)
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a P-TMSI reallocation procedure. The UE shall ignore the P-TMSI reallocation procedure and continue with the routing area updating procedure.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
		SS		The following messages are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach result = 'PS attach' Mobile identity = IMSI
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
6	->		ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
8		SS		Cell B is preferred by the UE.
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-1
10	<-		P-TMSI REALLOCATION COMMAND	Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
11	UE			The UE ignores the P-TMSI reallocation command.
12	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-4
13	->		ROUTING AREA UPDATE COMPLETE	
14	UE			The UE is switched off or power is removed (see ICS).
15	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.8.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the routing area updating procedure.

At step11, when a P-TMSI REALLOCATION COMMAND message is received from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- ignore the P-TMSI reallocation procedure.

- continue with the routing area updating procedure.

12.4.2 Combined routing area updating

The combined routing area updating procedure is a GMM procedure used by PS UEs of UE operation mode A that are IMSI attached for PS and non-PS services. In order to use the combined routing area updating procedure, the network must operate in network operation mode I.

12.4.2.1 Combined routing area updating / combined RA/LA accepted

12.4.2.1.1 Definition

12.4.2.1.2 Conformance requirement

1) If the network accepts the combined routing area updating procedure and reallocates a P-TMSI, the UE shall acknowledge the new P-TMSI and continue communication with the new P-TMSI.

2) If the network accepts the combined routing area updating procedure from the UE without reallocation of the old P-TMSI, the UE shall continue communication with the old P-TMSI.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.1.3 Test purpose

To test the behaviour of the UE if the network accepts the combined routing area updating procedure.

The following cases are identified:

1) P-TMSI / P-TMSI signature is reallocated.

2) Old P-TMSI / P-TMSI signature is not changed.

3) Mobile terminating CS call is allowed with IMSI.

4) Mobile terminating CS call is allowed with TMSI.

12.4.2.1.4 Method of test

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service	Yes/No
UE operation mode A	Yes/No
Switch off on button	Yes/No
Automatic PS attach procedure at switch on or power on	Yes/No

Test procedure

1) A combined PS attach procedure is performed. The UE sends a ROUTING AREA UPDATE REQUEST message. The SS reallocates the P-TMSI, unassigns the TMSI and returns ROUTING AREA UPDATE ACCEPT message with a new P-TMSI and IMSI. The UE acknowledge the new P-TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE - SS is performed by the new P-TMSI. For CS calls, the IMSI is used

2) The UE is CS paged in order to verify that the IMSI is used for CS calls.

3) A combined PS attach procedure is performed. The UE sends an ROUTING AREA UPDATE REQUEST message. The SS accepts the P-TMSI signature and returns ROUTING AREA UPDATE ACCEPT message without any P-TMSI and with a new TMSI. The UE acknowledge the new TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE-SS is performed by the old P-TMSI. For CS calls, the new TMSI is used.

4) The UE is CS paged in order to verify that the TMSI is used for CS calls.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1		SS		Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
1a	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~Activate cell B with a lower signal strength than cell A The RF level of cell A is lowered until cell B is preferred by the UE.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
8	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-4
9	->		ROUTING AREA UPDATE COMPLETE	
10	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.

Step	Direction		Message	Comments
	UE	**SS**		
10a	->		RRC CONNECTION REQUEST	
10b	<-		RRC CONNECTION SETUP	
10c	->		RRC CONNECTION SETUP COMPLETE	
11	->		SERVICE REQUEST	service type = "paging response"
11a	<-		RRC CONNECTION RELEASE	
11b	->		RRC CONNECTION RELEASE COMPLETE	
12	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
13	->		RRC CONNECTION REQUEST	
14	<-		RRC CONNECTION SETUP	
15	->		RRC CONNECTION SETUP COMPLETE	
16	->		PAGING RESPONSE	Mobile identity = IMSI
17	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
18	->		RRC CONNECTION RELEASE COMPLETE	
19		SS		The following messages are sent and shall be received on cell A. ~~The RF level of cell A is increased and the RF level of cell B is lowered until cell A is preferred by the UE.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
20	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
21	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' No P-TMSI P-TMSI-2 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
22	->		ROUTING AREA UPDATE COMPLETE	
23	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
23a	->		RRC CONNECTION REQUEST	
23b	<-		RRC CONNECTION SETUP	
23c	->		RRC CONNECTION SETUP COMPLETE	
24	->		SERVICE REQUEST	service type = "paging response"
24a	<-		RRC CONNECTION RELEASE	
24b	->		RRC CONNECTION RELEASE COMPLETE	
25	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
26	->		RRC CONNECTION REQUEST	
27	<-		RRC CONNECTION SETUP	
28	->		RRC CONNECTION SETUP COMPLETE	
29	->		PAGING RESPONSE	Mobile identity = TMSI-1
30	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
31	->		RRC CONNECTION RELEASE COMPLETE	
32	UE			The UE is switched off or power is removed (see ICS).

Step	Direction		Message	Comments
	UE	SS		
33		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.1.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step9, UE shall:

- acknowledge the new P-TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step11, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step16, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step20, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step22, UE shall:

- acknowledge the new TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step24, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step29, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

12.4.2.2 Combined routing area updating / UE in CS operation at change of RA

12.4.2.2.1 Definition

12.4.2.2.2 Conformance requirement

PS UE in UE operation mode A that is in an ongoing CS transaction at change of routing area shall initiate the normal routing area updating procedure.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.2.3 Test purpose

To test the behaviour of the UE if the routing area is changed during an ongoing circuit switched transmission.

12.4.2.2.4 Method of test

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

A combined PS attach procedure is performed. The UE in UE operation mode A initiates a CS call. The routing area change. The UE will perform the normal routing area updating procedure ~~durng~~during the ongoing circuit-switched transaction.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1				Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
1a	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6	UE			A CS call is initiated.
7		SS		Activate cell B with the same signal strength as cell A.
8	<-			Handover commanded by SS on to DCH of cell B The following messages are sent and shall be received on cell B.
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
10	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-4
11	->		ROUTING AREA UPDATE COMPLETE	
12	<-		PAGING TYPE2	Mobile identity = P-TMSI-1 Paging order is for PS services.
13	->		SERVICE REQUEST	service type = "paging response"
14		SS		The SS initiates the RRC connection release.
15	UE			The UE is switched off or power is removed (see ICS).
16	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.2.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell during the CS connection, UE shall:

- initiate the normal routing area updating procedure.

12.4.2.3 Combined routing area updating / RA only accepted

12.4.2.3.1 Definition

12.4.2.3.2 Conformance requirement

1) If the network accepts the combined PS attach procedure, but GMM cause code 'IMSI unknown in HLR' is sent to the UE the User Equipment shall delete the stored TMSI, LAI and CKSN. The User Equipment shall consider USIM invalid for non-PS services until power is switched off or USIM is removed.

2) If the network accepts the combined PS attach procedure, but GMM cause code 'MSC temporarily not reachable', 'Network failure' or 'Congestion' is sent to the UE, an UE operation mode A UE may perform an MM IMSI attach procedure.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.3.3 Test purpose

Test porpose1

To test the behaviour of the UE if the network accepts the routing area updating procedure with indication RA only, GMM cause 'IMSI unknown in HLR'.

Test porpose2

To test the behaviour of the UE if the network accepts the routing area updating procedure with indication RA only, GMM cause 'MSC temporarily not reachable', 'Network failure' or 'Congestion'.

12.4.2.3.4 Method of test

Test Procedure1

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> Both cells operating in network operation mode I.

User Equipment:

> The UE has a valid IMSI.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode A   Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

After attach, the UE sends an ROUTING AREA UPDATE REQUEST message. The SS allocates a P-TMSI and returns ROUTING AREA UPDATE ACCEPT message with a P-TMSI. GMM cause 'IMSI unknown in HLR' is indicated from SS. Further communication UE - SS is performed by the P-TMSI. CS services are not possible.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1		SS		Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
1a	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
8	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'IMSI unknown in HLR'
9	->		ROUTING AREA UPDATE COMPLETE	
10	<-		PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
10a	->		RRC CONNECTION REQUEST	
10b	<-		RRC CONNECTION SETUP	
10c	->		RRC CONNECTION SETUP COMPLETE	
11	->		SERVICE REQUEST	service type = "paging response"
11a	<-		RRC CONNECTION RELEASE	
11b	->		RRC CONNECTION RELEASE COMPLETE	
12	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
13	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
14	UE			The UE is switched off or power is removed (see ICS).
15	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Test Procedure2

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
Both cells operating in network operation mode I.

User Equipment:

> The UE has a valid IMSI.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode A   Yes/No
> Automatic MM IMSI attach procedure for UE operation mode A UE   Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

After attach, the UE sends an ROUTING AREA UPDATE REQUEST message . The SS allocates a new P-TMSI signature and returns ROUTING AREA UPDATE ACCEPT message. GMM cause 'MSC temporarily not reachable', 'Network failure' or 'Congestion' is indicated from SS. The cause code is arbitrarily chosen. This procedure is repeated until the routing area updating attempt counter is equal to five. An UE operation mode A UE may perform an MM IMSI attach procedure (according to the ICS statement). Further communication UE - SS is performed by the P-TMSI. The existence of a signalling channel is verified by a request for mobile identity. It is further verified that the UE after a successful IMSI attach procedure can perform CS services.

Expected Sequence

Dependent whether the option 'Automatic MM IMSI attach procedure for UE operation mode A UE' is not supported or not, the steps 1-13 or 14-35 apply depending on manufacturer (see ICS).

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
1a	UE			The UE is set in UE operation mode A and no automatic MM IMSI attach procedure is indicated (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS attach while IMSI attached' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
8	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)

9	->	ROUTING AREA UPDATE COMPLETE	
10			The routing area updating attempt counter =1. The combined routing area updating procedure is reinitialised at the expiry of T3311
11	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
12	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
13	->	ROUTING AREA UPDATE COMPLETE	
14			The routing area updating attempt counter =2. The combined routing area updating procedure is reinitialised at the expiry of T3311
15	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
16	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
17	->	ROUTING AREA UPDATE COMPLETE	
18			The routing area updating attempt counter =3. The combined routing area updating procedure is reinitialised at the expiry of T3311
19	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
20	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
21	->	ROUTING AREA UPDATE COMPLETE	
22			The routing area updating attempt counter =4. The combined routing area updating procedure is reinitialised at the expiry of T3311
23	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
24	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)

25	->	ROUTING AREA UPDATE COMPLETE	
26			The routing area updating attempt counter =5. The combined routing area updating procedure is reinitialised at the expiry of T3311
27	UE		The UE is switched off or power is removed (see ICS).
28	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach' Stop the sequence.
29	UE		The following messages are sent and shall be received on cell B The UE is set in UE operation mode A and automatic MM IMSI attach procedure is indicated (see ICS).
30	UE		The UE is powered up or switched on and initiates an attach (see ICS).
31	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or 'PS attach while IMSI attached' Mobile identity = IMSI TMSI status = no valid TMSI available
32	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-4
33	->	ATTACH COMPLETE	
34	SS		The following messages are sent and shall be received on cell A. ~~The SS deactivates cell B and activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
35	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
36	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
37	->	ROUTING AREA UPDATE COMPLETE	
38			The routing area updating attempt counter =1. The combined routing area updating procedure is reinitialised at the expiry of T3311
39	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
40	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
41	->	ROUTING AREA UPDATE COMPLETE	
42			The routing area updating attempt counter =2. The combined routing area updating procedure is reinitialised at the expiry of T3311

43	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating•with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
44	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
45	->	ROUTING AREA UPDATE COMPLETE	
46			The routing area updating attempt counter =3. The combined routing area updating procedure is reinitialised at the expiry of T3311
47	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating•with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
48	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
49	->	ROUTING AREA UPDATE COMPLETE	
50			The routing area updating attempt counter =4. The combined routing area updating procedure is reinitialised at the expiry of T3311
51	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating•with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
52	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
53	->	ROUTING AREA UPDATE COMPLETE	
54			The routing area updating attempt counter =5.
55	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is TMSI-1.
56	<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
57	->	RRC CONNECTION REQUEST	
58	<-	RRC CONNECTION SETUP	
59	->	RRC CONNECTION SETUP COMPLETE	
60	->	PAGING RESPONSE	Mobile identity = TMSI-1
61	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
62	->	RRC CONNECTION RELEASE COMPLETE	
63	UE		The UE is switched off or power is removed (see ICS).
64	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS Detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.3.5 Test requirements

Test requirements for Test Procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure.

At step9, UE shall:

- acknowledge the new P-TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step11, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step13, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

Test requirements for Test Procedure2

At step3 and 31, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step6 and 35, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure.

At step11, 15, 19 and 23, UE shall:

- re-initiate the combined routing area updating procedure.

At step39, 43, 47 and 51, UE shall:

- re-initiate the combined routing area updating procedure.

At step55, UE shall:

- perform MM location updating procedure.

At step60, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

12.4.2.4 Combined routing area updating / rejected / PLMN not allowed

12.4.2.4.1 Definition

12.4.2.4.2 Conformance requirement

1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall:

   1.1 not perform combined GPRA attach when switched on in the same location area or PLMN.

   1.2 delete the stored RAI, PS-CKSN, P-TMSI, P-TMSI signature, TMSI CKSN and LAI.

   1.3 store the PLMN in the 'forbidden PLMN list'.

2) An MS that receives a ROUTING AREA UPDATE REJECT message stops timer T3330, enters state MM IDLE and for all causes except #12, #14 and #15 deletes the list of "equivalent PLMNs".

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.4.3 Test purpose

To test the behaviour of the UE if the network rejects the combined routing area updating procedure of the UE with the cause 'PLMN not allowed'.

12.4.2.4.4 Method of test

Initial condition

System Simulator:

   Four Five cells (not simultaneously activated), cell A in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell B in MCC1/MNC2/LAC1/RAC2 (RAI-10), cell C in MCC1/MNC2/LAC2/RAC1 (RAI-9) and cell D in MCC2/MNC1/LAC1/RAC1 (RAI-2)., cell E in MCC1/MNC3/LAC1/RAC1 (RAI-11).

   The PLMN containing Cells A, B and C is equivalent to the PLMN that contains Cell E.
   All four five cells are operating in network operation mode I

User Equipment:

   The UE has a valid IMSI.

Related ICS/IXIT statements

   Support of PS service   Yes/No
   UE operation mode A   Yes/No
   Switch off on button   Yes/No
   Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined routing area updating with the cause value 'PLMN not allowed'. The SS checks that the UE does not perform PS attach if activated in the same PLMN. The SS checks that the UE does not perform IMSI attach if activated in the same PLMN.

Expected Sequence

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall be received on cell A.
1	SS		~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". Set the cell type of cell D to the "Off cell". Set the cell type of cell E to the "Off cell". (note)
2	UE		The UE is powered up or switched on and initiates an attach (see ICS.
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-8 Mobile identity = TMSI-1 Equivalent PLMN: MCC = 1, MNC=3
5	->	ATTACH COMPLETE	
7	SS		The following messages are sent and shall be received on cell B and cell E. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". Set the cell type of cell E to the "Suitable neighbour cell". (note)
8	UE		Cell B is preferred by the UE.
9	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-8 TMSI status = valid TMSI available
10	<-	ROUTING AREA UPDATE REJECT	GMM cause = 'PLMN not allowed'
11	UE		The UE initiates an attach by MMI or AT command.
12	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds).
12a	SS		The SS deactivates cell E. Set the cell type of cell E to the "Off cell".
13	<-	PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
14	UE		No response from the UE to the request. This is checked for 10 seconds.
15	SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~ Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
16	UE		Cell C is preferred by the UE.
17	UE		The UE initiates an attach by MMI or by AT command.
18	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds).
19	<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
20	UE		The UE shall not initiate an RRC connection. This is checked during 3 seconds.
			The following messages are sent and shall be received on cell A.

Step	Direction UE	SS	Message	Comments
21	SS			~~The SS deactivates cell C and activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell C to the "Off cell". (note)
22	UE			Cell A is preferred by the UE.
23	UE			The UE initiates an attach by MMI or by AT command.
24	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
25	<-		PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
26	UE			No response from the UE to the request. This is checked for 10 seconds.
27	SS			The following messages are sent and shall be received on cell D. ~~The SS deactivates cell A and activates cell D.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell D to the "Serving cell". (note)
28	UE			Cell D is preferred by the UE.
28a	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE.
29	UE			The UE initiates an attach automatically (see ~~PICS~~ICS), by MMI or by AT command.
30	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
31	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2 Mobile identity = IMSI
32	->		ATTACH COMPLETE	
33	UE			The UE is switched off or power is removed (see ICS).
34	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell", "Serving cell" and "Suitable neighbour cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.4.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step 10, the UE shall delete the equivalent PLMN list (MCC=1, MNC=3).

At step 12, the UE shall not initiate a PS attach procedure to cell E.

At step~~12,~~18 and 24, UE shall:

- not initiate a PS attach procedure.

At step14, 20 and 26, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step20, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step30, UE shall:

- perform the PS attach procedure.

12.4.2.5a Combined routing area updating / rejected / roaming not allowed in this location area

12.4.2.5a.1 Definition

12.4.2.5a.2 Conformance requirement

1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'roaming not allowed in this location area' the User Equipment:

    1.1 shall not perform combined PS attach when in the same location area.

    1.2 shall delete the stored RAI, PS-CKSN, P-TMSI P-TMSI signature, TMSI, CKSN and LAI.

    1.3 shall store the LA in the 'forbidden location areas for roaming'.

    1.4 may perform combined PS attach when a new location area is entered.

2) The User Equipment shall reset the list of 'Forbidden location areas for roaming' when switched off or when the USIM is removed.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.5a.3 Test purpose

Test purpose1

To test that on receipt of a rejection using the 'Roaming not allowed in this area' cause code, the UE ceases trying a routing area updating procedure on that location area. Successful combined routing area updating procedure is possible in other location areas.

Test purpose2

To test that if the UE is switched off or the USIM is removed the list of 'forbidden location areas for roaming' is cleared.

12.4.2.5a.4 Method of test

12.4.2.5a.4.1 Test procedure1

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell B in
> MCC2/MNC1/LAC2/RAC1 (RAI-6).
> Both cells are operating in network operation mode I.

User Equipment:

    The UE has a valid IMSI.

Related ICS/IXIT statements

    Support of PS service   Yes/No
    UE operation mode A   Yes/No
    Switch off on button   Yes/No
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined routing area updating with the cause value 'Roaming not allowed in this area'. A new attempt for a combined PS attach is not possible. Successful combined PS attach procedure is performed in another location area. The UE is moved back to the 1st location area. A combined routing area updating shall not be performed, as the LA is on the forbidden list.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-2 Mobile identity = TMSI-1
5	->		ATTACH COMPLETE	
				The following messages are sent and shall be received on cell B.
7		SS		~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
8	UE			Cell B is preferred by the UE.
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-2
10	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Roaming not allowed in this area'
11	UE			The UE initiates an attach by MMI or by AT command.
12	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
13	<-		PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
14	UE			No response from the UE to the request. This is checked for 10 seconds.
15	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
16	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
				The following messages are sent and shall be received on cell A.
17		SS		~~The SS deactivates cell B and activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
18	UE			Cell A is preferred by the UE.
18a	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE.
19	UE			The UE initiates an attach automatically (see ICS), by MMI or by AT command.
20	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available

Step	Direction		Message	Comments
	UE	SS		
21		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2~~6~~ Mobile identity = TMSI-1
22	->		ATTACH COMPLETE	
23		<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
24	->		RRC CONNECTION REQUEST	
25		<-	RRC CONNECTION SETUP	
26	->		RRC CONNECTION SETUP COMPLETE	
27	->		PAGING RESPONSE	Mobile identity = TMSI-1
28		<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
29	->		RRC CONNECTION RELEASE COMPLETE	
30		<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
30a	->		RRC CONNECTION REQUEST	
30b		<-	RRC CONNECTION SETUP	
30c	->		RRC CONNECTION SETUP COMPLETE	
31	->		SERVICE REQUEST	service type = "paging response"
31a		<-	RRC CONNECTION RELEASE	
31b	->		RRC CONNECTION RELEASE COMPLETE	
32		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
33		UE		No ROUTING AREA UPDATE REQUEST sent to SS (SS waits 30 seconds).
34		<-	PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
35		UE		No response from the UE to the request. This is checked for 10 seconds.

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.4.2.5a.4.2   Test procedure2

Initial condition

System Simulator:

   Two cells ~~(not simultaneously activated)~~, cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell B in MCC2/MNC1/LAC2/RAC1 (RAI-6).
   Both cells are operating in network operation mode I.

User Equipment:

   The UE has a valid IMSI. UE is Idle Updated on cell A.

Related ICS/IXIT statements

   Support of PS service   Yes/No
   UE operation mode A   Yes/No
   USIM removal possible without powering down Yes/No

    Switch off on button   Yes/No
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined routing area updating with the cause value 'Roaming not allowed in this area'. The UE is switched off for 10 seconds and switched on again. The SS checks that a combined PS attach is possible on the cell on which the previous combined routing area updating had been rejected.

If USIM removal is possible without switching off:
The SS rejects a routing area updating with the cause value 'Roaming not allowed in this area'. The USIM is removed and inserted in the UE. The SS checks that a PS attach procedure and routing area updating procedure is possible on the cell on which the routing area updating had previously been rejected.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-2 Mobile identity = TMSI-1
5	->		ATTACH COMPLETE	
7		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
8	UE			Cell B is preferred by the UE.
9	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-2
10	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'Roaming not allowed in this area'
11	UE			The UE initiates an attach by MMI or by AT command.
12	UE			No ATTACH REQUEST sent to SS (SS waits 30 seconds).
13	<-		PAGING TYPE1	Mobile identity = P-TMSI-2 Paging order is for PS services.
14	UE			No response from the UE to the request. This is checked for 10 seconds.
15	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
16	UE			The UE shall not initiate an RRC connection. This is checked during 3 seconds.
17	UE			If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
18	UE			The UE gets the USIM replaced, is powered up or switched on.
18a	UE		Registration on CS	See TS 34.108 This step is applied only for non-auto attach UE. Location Update Procedure initiated from the UE.
19	UE			The UE initiates an attach automatically (see ~~PICS~~ICS) by MMI or AT command.
20	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
21	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-6 Mobile identity = TMSI-1

Step	Direction		Message	Comments
	UE	SS		
22	->		ATTACH COMPLETE	
23	<-		PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
24	->		RRC CONNECTION REQUEST	
25	<-		RRC CONNECTION SETUP	
26	->		RRC CONNECTION SETUP COMPLETE	
27	->		PAGING RESPONSE	Mobile identity = TMSI-1
28	<-		RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
29	->		RRC CONNECTION RELEASE COMPLETE	
30	<-		PAGING TYPE1	Mobile identity = P-TMSI-1
30a	->		RRC CONNECTION REQUEST	
30b	<-		RRC CONNECTION SETUP	
30c	->		RRC CONNECTION SETUP COMPLETE	
31	->		SERVICE REQUEST	service type = "paging response"
31a	<-		RRC CONNECTION RELEASE	
31b	->		RRC CONNECTION RELEASE COMPLETE	
32	UE			The UE is switched off or power is removed (see ICS).
33	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.5a.5   Test requirements

Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence

At step12, when the SS rejects the combined routing area update procedure with GMM cause = 'Roaming not allowed in this area', UE shall:

- not initiate a PS attach procedure.

At step14, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

At step16, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step20, UE shall:

- initiate the combined PS attach procedure.

At step27, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step31, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step35, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step14, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

At step16, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step20, UE shall:

- initiate the combined PS attach procedure.

At step27, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step31, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

12.4.2.5b Combined routing area updating / rejected / No Suitable Cells In Location Area.

12.4.2.5b.1 Definition

12.4.2.5b.2 Conformance requirement

1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:

   1.1 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

   1.2 store the LA or the PLMN identity in the 'forbidden location areas for roaming'.

   1.3 search for a suitable cell in a different location area on the same PLMN.

2) An MS that receives a ROUTING AREA UPDATE REJECT message stops timer T3330, enters state MM IDLE and for all causes except #12, #14 and #15 deletes the list of "equivalent PLMNs".

Reference

3GPP TS 24.008 clauses 4.7.5.2.4

12.4.2.5b.3 Test purpose

To test the behaviour of the UE if the network rejects a combined routing area updating procedure of the UE with the cause 'No Suitable Cells In Location Area'.

To test that the UE deletes the list of forbidden LAs when power is switched off'.

12.4.2.5b.4 Method of test

Initial condition

System Simulator:

Four Five cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell D in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell E in MCC1/MNC2/LAC1/RAC1 (RAI-5)

All three five cells are operating in network operation mode II.

The PLMN contains Cell A, B and D is equivalent to the PLMN that contains Cell E.

User Equipment:

The UE has valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
USIM removal possible without powering down Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a combined routing area updating with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following message are sent and shall be received on cell D.
1		SS		~~The SS activates cell D.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Serving cell". Set the cell type of cell E to the "Off cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell D is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 Mobile identity = IMSI Equivalent PLMN: MCC = 1, MNC=2
5	->		ATTACH COMPLETE	
6		SS		~~The SS deactivates Cell D and activates Cell A, Cell B and Cell C.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Off cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C Cell A is preferred by the UE.
7	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-1 signature Routing area identity = RAI-4
8	<-		ROUTING AREA UPDATE REJECT	GMM cause = 'No Suitable Cells In Location Area' The following message are sent and shall be received on cell B.
9	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attached' Mobile identity = IMSI
10	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-3 Equivalent PLMN: MCC = 1, MNC=2
11	->		ATTACH COMPLETE	
12		SS		Set the cell type of cell D to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell E to the "Suitable neighbour cell". (note) The SS deactivates Cell B and activates Cell D and Cell E The SS configures power level of each Cell as follows. Cell D > Cell E Cell D is preferred by the UE.
13				

14	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-1 signature Routing area identity = RAI-4
15	<-	ROUTING AREA UPDATE REJECT	GMM cause = 'No Suitable Cells In Location Area'
16			The following message are sent and shall be received on cell E.
17	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attached' Mobile identity = IMSI
18	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-3 P-TMSI-3 signature Routing area identity = RAI-5 Equivalent PLMN: MCC=1. MNC=1
~~12~~19	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell", "Serving cell" and "Off cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.5b.5   Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the Combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure.

At step 8, the UE shall maintain the equivalent PLMN list (MCC=1, MNC=2).

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

At step 15, the UE shall maintain the equivalent PLMN list (MCC=1, MNC=2).

At step 17, when the UE enters a suitable cell in a different but equivalent PLMN (MCC=1, MNC=2), UE shall:

- perform the PS attach procedure.

12.4.2.6   Combined routing area updating / abnormal cases / access barred due to access class control

12.4.2.6.1   Definition

12.4.2.6.2   Conformance requirement

1) The UE shall not perform combined routing area updating procedure, but stays in the current serving cell and applies normal cell reselection process.

2) The User Equipment shall perform the combined routing area updating procedure when:

  2.1 Access is granted.

  2.2 Cell is changed.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.6.3   Test purpose

Test purpose1

To test the behaviour of the UE in case of access class control (access is granted).

Test purpose2

To test the behaviour of the UE in case of access class control (cell is changed).

12.4.2.6.4   Method of test

12.4.2.6.4.1   Test procedure1

Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is initially indicated to be barred on Cell B.

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has Access Class x not barred, cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) has Access Class x barred.
> Both cells are operating in network operation mode I.

User Equipment:

> The UE has valid IMSI. UE is Idle Updated on cell A.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode A   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 procedure is performed. The routing area is changed. The SS indicates access class x barred. A routing area updating procedure is not performed.

The SS indicates that access class x is not barred. A routing area updating procedure is performed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	UE			No ROUTING AREA UPDATE REQUEST sent to SS, as access class x is barred (SS waits 30 seconds).
9		SS		The access class x is not barred anymore.
10	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
11	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-4
12	->		ROUTING AREA UPDATE COMPLETE	
13	UE			The UE is switched off or power is removed (see ICS).
14	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.6.4.2 Test procedure2

Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is indicated to be barred on cell B.

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x not barred, cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) has access class x barred, cell C in

MCC1/MNC1/LAC1/RAC2 (RAI-4) has access class x not barred.
All three cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   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 procedure is performed. The routing area is changed. The SS indicates access class x barred. A routing area updating procedure is not performed.

A cell change is performed into a cell where access class x is not barred. A routing area updating procedure is performed.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	UE			No ROUTING AREA UPDATE REQUEST sent to SS, as access class x is barred (SS waits 30 seconds).
9		SS		The following messages are sent and shall be received on cell C. ~~The SS deactivates cell B and activates cell C.~~Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
10	UE			Cell C is preferred by the UE.
11	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
12	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-4
13	->		ROUTING AREA UPDATE COMPLETE	
14	UE			The UE is switched off or power is removed (see ICS).
15	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.6.5 Test requirements

Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the access class x is barred , UE shall:

- not perform the combined routing area updating procedure.

At step10, when the access class x is not barred, UE shall:

- perform the combined routing area updating procedure.

Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the access class x is barred UE shall:

- not perform the combined routing area updating procedure.

At step11, when the serving cell is changed, UE shall:

- perform the combined routing area updating procedure.

12.4.2.7 Combined routing area updating / abnormal cases / attempt counter check / procedure timeout

12.4.2.7.1 Definition

12.4.2.7.2 Conformance requirement

1) When a T3330 timeout has occurred during a routing area updating procedure, the UE shall repeat the routing area updating procedure after T3330 timeout until the procedure is repeated five times.

2) When a routing area updating procedure is repeated five times, the routing area updating attempt counter is incremented and five more routing area updating procedures are performed. This procedure is repeated until the routing area updating attempt counter is five, the UE shall then start timer T3302.

3) When the T3302 expire, a new routing area updating procedure shall be initiated.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.7.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

12.4.2.7.4 Method of test

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> Both cells are operating in network operation mode I.

User Equipment:

> The UE has a valid IMSI. UE is Idle Updated on cell A.

Related ICS/IXIT statements

> Support of PS service Yes/No
> UE operation mode A Yes/No
> Switch off on button Yes/No
> Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The UE initiates a routing area updating procedure (routing area updating attempt counter zero). The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter one) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter two) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter three) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter four) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and as the routing area updating attempt counter is five. T3302 is started.

The UE performs a Location Update procedure.

The UE initiates a routing area updating procedure with routing area updating attempt counter zero after T3302 expires with the stored P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 12 minutes.

T3311; 15 seconds.

T3330; 15 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE. K = 1.
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k (k is not visible. It is only used for clarifying the sequence.) Retransmission counter = 0
9		SS		No response is given from the SS.
10		SS		The SS verifies that the time between the RA update requests is T3330seconds
11	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Retransmission counter = 1
12		SS		No response is given from the SS.
13		SS		The SS verifies that the time between the RA update requests is T3330seconds
14	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Retransmission counter = 2
15		SS		No response is given from the SS.
16		SS		The SS verifies that the time between the RA update requests is T3330seconds
17	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Retransmission counter = 3
18		SS		No response is given from the SS.
19		SS		The SS verifies that the time between the RA update requests is T3330seconds

Step	Direction		Message	Comments
	UE	SS		
20	->		ROUTING AREA UPDATING REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Retransmission counter = 4
21		SS		No response is given from the SS.
22		SS		The SS verifies that the time between the RA update requests is T3311 + T3330 seconds.
23		SS		Step 8 – 22 is repeated four times with k = 2, k = 3, k = 4 and k = 5
23a	UE		Registration on CS	The UE performs a normal location updating procedure. See TS 34.108
24		SS		The SS verifies that the time between the RA update requests is T3302 + T3330 seconds
25	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
26	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-4
27	->		ROUTING AREA UPDATE COMPLETE	
28	UE			The UE is switched off or power is removed (see ICS).
29	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.7.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure with information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the conditions described below.

Case 1) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter less than five and the Retransmission counter less than five

At step11, 14, 17 and 20, UE shall:

- repeat the combined routing area updating procedure after the timer T3330 timeout

Case2) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter less than five and the ~~Retansmission~~Retransmission counter five

At step 22, UE shall:

- not repeat the combined routing area updating procedure.

Case 3) A timer T3311 timeout has occurred and the Routing area attempt counter is less than five,

At step23, UE shall:

- repeat the combined routing area updating procedure

Case 4) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter five and the ~~Retansmission~~Retransmission counter five.

At step24, UE shall:

- not initiate a routing area updating procedure.

Case5) The timer T3302 expires

At step25, UE shall:

- initiate the new routing area updating procedure

12.4.2.8 Combined routing area updating / abnormal cases / change of cell into new routing area

12.4.2.8.1 Definition

12.4.2.8.2 Conformance requirement

When a change of cell into a new routing area is performed before the routing area updating procedure is finished, the UE shall abort the routing area updating procedure and re-initiate it in the new routing area.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.2.8.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC1/RAC3 (RAI-5).
All three cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update into a new routing area. The UE shall re-initiate a routing area updating procedure in the new routing area. The UE shall not increment the attempt counter.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3		->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5		->	ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8		->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
9		SS		No response id given from the SS.
10		SS		The following messages are sent and shall be received on cell C. Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Serving cell". (note)~~Activate cell C with a lower signal strength than cell B.~~
11	UE			The RF level of cell B is lowered, and the RF level of cell C is increased, until cell C is preferred by the UE.
12		->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
13		<-	ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-5
14		->	ROUTING AREA UPDATE COMPLETE	
15	UE			The UE is switched off or power is removed (see ICS).
16		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.8.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the routing area update procedure.

At step12, when change of cell into new routing area is performed before the routing area updating procedure is finished, UE shall:

- abort the routing area updating procedure.

- re-initiate new routing area updating procedure in the new routing area.

12.4.2.9 Combined routing area updating / abnormal cases / change of cell during routing area updating procedure

12.4.2.9.1 Definition

12.4.2.9.2 Conformance requirement

When a change of cell within new routing area is performed before the routing area updating procedure is finished, the UE shall perform the cell update before the routing area updating procedure is finished.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.2.9.4 Method of test

Initial condition

System Simulator:

> Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> All three cells are operating in network operation mode I.

User Equipment:

> The UE has a valid IMSI. UE is Idle Updated on cell A.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode A   Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update within the routing area. The UE then waits for the ROUTING AREA UPDATE ACCEPT message.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5	->		ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~ Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
9		SS		No response id given from the SS.
10		SS		The following messages are sent and shall be received on cell C. Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Serving cell". (note) ~~Activate cell C with a lower signal strength than cell B~~.
11	UE			The RF level of cell B is lowered until cell C is preferred by the UE.
12a	->		CELL UPDATE	Cell update cause = 'cell reselection'
12b	<-		CELL UPDATE CONFIRM	
13	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-4
14	->		ROUTING AREA UPDATE COMPLETE	
15	UE			The UE is switched off or power is removed (see ICS).
16	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.9.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step12a, when a change of cell within a new routing area is performed before the routing area updating procedure is finished, UE shall:

- perform the cell update.

12.4.2.10 Combined routing area updating / abnormal cases / PS detach procedure collision

12.4.2.10.1 Definition

12.4.2.10.2 Conformance requirement

1) When a detach request is received with cause 'PS detach' or 'combined PS/IMSI detach' by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall terminate the routing area updating procedure and continue with the PS detach procedure.

2) When a detach request is received with cause 'IMSI detach' by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall ignore the detach request and continue with the routing area updating procedure.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.10.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.2.10.4 Method of test

12.4.2.10.4.1 Test procedure1

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a PS detach procedure with cause 'PS detach' or 'combined PS/IMSI detach'. The UE shall terminate the routing area updating procedure and continue with the PS detach procedure.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3		->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5		->	ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8		->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
9		SS		The SS ignores the ROUTING AREA UPDATE REQUEST message and initiates a detach procedure.
10		<-	DETACH REQUEST	Detach type = 're-attach not required'
11		->	DETACH ACCEPT	

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.10.4.2   Test procedure2

Initial condition

System Simulator:

> Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I.

User Equipment:

> The UE has a valid P-TMSI, P-TMSI signature and RAI.

Related ICS/IXIT statements

> Support of PS service Yes/No
> UE operation mode A Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a PS detach procedure with cause 'IMSI detach'. The UE shall ignore the detach procedure and continue with the routing area updating procedure.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A.
		SS		Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)~~The SS activates cell A.~~
2	UE			The UE is powered up or switched on and initiates an attach (see ICS.
3		->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI TMSI status = no valid TMSI available
4		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5		->	ATTACH COMPLETE	
6		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
7	UE			Cell B is preferred by the UE.
8		->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
9		SS		The SS ignores the ROUTING AREA UPDATE REQUEST message and initiates a detach procedure.
10		<-	DETACH REQUEST	Detach type = 'IMSI detach'
11	UE			The UE ignores the DETACH REQUEST message and continue the routing area updating procedure.
12		<-	ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = IMSI Routing area identity = RAI-4
13		->	ROUTING AREA UPDATE COMPLETE	
14	UE			The UE is switched off or power is removed (see ICS).
15		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.2.10.5 Test requirements

Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step11, when the UE receives a DETACH REQUEST message with cause 'PS detach' or 'combined PS/IMSI detach' from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- terminate the routing area updating procedure

- continue with the PS detach procedure.

Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step11, the UE receives a DETACH REQUEST message with cause 'IMSI detach' from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- ignore the detach request procedure.

- continue with the routing area updating procedure.

/******************* Next changes *********************/**

12.4.3.3 Periodic routing area updating / no cell available / network mode I

12.4.3.3.1 Definition

12.4.3.3.2 Conformance requirement

If the UE is both IMSI attached for PS and non-PS services, and if the UE lost coverage of the registered PLMN and timer T3312 expires; if the UE returns to coverage in a cell that supports PS and the network is in network operation mode I, then the UE shall perform a combined routing area update procedure indicating 'combined RA/LA updating with IMSI attach'.

Reference

3GPP TS 24.008 clauses 4.7.2.2 and 4.7.5.1.

12.4.3.3.3 Test purpose

To test the behaviour of the UE with respect to the periodic routing area updating procedure.

12.4.3.3.4 Method of test

Initial condition

System Simulator:

> Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> Cell A is operating in network operation mode II and cell B is in network operation mode I.

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

> Idle updated on Cell A

Related ICS/IXIT statements

> Support of PS service Yes/No
> UE operation mode A Yes/No
> Switch off on button Yes/No
> Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The UE initiates a PS attach procedure. The SS reallocates the P-TMSI and returns ATTACH ACCEPT message with a new P-TMSI and timer T3312. The UE acknowledge the new P-TMSI by sending ATTACH COMPLETE message. PS radio contact is distorted before T3312 timeout. PS radio contact is established again (after T3312 timeout), and a routing area updating procedure is performed immediately.

T3312; set to 6 minutes.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		The following messages are sent and shall be received on cell A.
1		SS		~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
2		SS		The UE is set in UE operation mode A (see ICS).
3	UE			The UE is powered up or switched on and initiates an attach (see ICS).
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 T3312 = 6 minutes
6	->		ATTACH COMPLETE	
7		SS		After 5 minutes, the signal strength is lowered until the UE ~~have~~ has lost contact with the SS.
8		SS		Wait 2 minutes.
9		SS		The following messages are sent and shall be received on cell B. ~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note)
10	UE			Cell B is preferred by the UE.
11	UE			The UE immediately starts a combined RA updating procedure
12	->		ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating with IMSI attach' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = valid TMSI available or IE is omitted.
13	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-3 P-TMSI-3 signature Mobile identity = TMSI-2 Routing area identity = RAI-4
14	->		ROUTING AREA UPDATE COMPLETE	
15	UE			The UE is switched off or power is removed (see ICS).
16	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.4.3.3.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step12, when the UE is both IMSI attached for PS and non-PS service , and if the UE lost coverage of the reiterated PLMN and the timer T3312 expires, if the UE returns to coverage in a cell that supports PS and the network is in network oration mode I, UE shall:

- perform the combined routing area update procedure indicating "combined RA/LA updating with IMSI attach".

/******************** **Next changes** ********************/

12.6.1.1 Authentication accepted

12.6.1.1.1 Definition

12.6.1.1.2 Conformance requirement

A User Equipment shall correctly respond in an authentication and ciphering procedure by sending a response with the RES information field set to the same value as the one produced by the authentication and ciphering algorithm in the network.

Reference

3GPP TS 24.008 clause 4.7.7.

12.6.1.1.3 Test purpose

To test the behaviour of the UE if the network accepts the authentication and ciphering procedure.

12.6.1.1.4 Method of test

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
> Both cells are operating in network operation mode II.

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 SS checks the value RES sent by the UE in the AUTHENTICATION AND CIPHERING RESPONSE message.

The UE initiates a routing area updating procedure and the SS checks the value of the PS Ciphering Key Sequence Number sent by the UE in the ROUTING AREA REQUEST message.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 17.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS).
4		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
5		<-	AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Set PS-CKSN-1
6		->	AUTHENTICATION AND CIPHERING RESPONSE	RES
7		SS		The SS checks the RES value.
8		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
9		->	ATTACH COMPLETE	
10		SS		The following messages are sent and shall be received on cell B. ~~Activate cell B with a lower signal strength than cell A The RF level of cell A is lowered until cell B is preferred by the UE.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
11		->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1 PS-CKSN-1
12		SS		The value of PS-CKSN is checked
13		<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
14		->	ROUTING AREA UPDATE COMPLETE	
15	UE			The UE is switched off or power is removed (see ICS).
16		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
17		SS		Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)~~Reset the RF level of cell A to default state. Deactivate cell B.~~
18	UE			The UE is set in UE operation mode A (see ICS) and the test is repeated from step 3 to step 16.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.1.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message form SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message with the RES information field set to the same value as the one produced by the authentication and ciphering algorithm in the network.

At step11, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- perform routing area updating procedure.

12.6.1.2 Authentication rejected by the network

12.6.1.2.1 Definition

12.6.1.2.2 Conformance requirement

Upon receipt of an AUTHENTICATION AND CIPHERING REJECT message, the UE shall set the PS update status to GU3 ROAMING NOT ALLOWED and shall delete the P-TMSI, P-TMSI signature, RAI and PS ciphering key sequence number stored

The USIM shall be considered as invalid until switching off or the USIM is removed.

If the AUTHENTICATION AND CIPHERING REJECT message is received, the UE shall abort any GMM procedure, shall stop the timers T3310 and T3330 (if running) and shall enter state GMM-DEREGISTERED

1) After reception of an Authentication Reject message the UE shall:

1.1 not perform normal routing area updating

1.2 not perform periodic routing area updating

1.3 not perform PS detach if switched off

2) The UE shall delete the stored RAI, PS-CKSN P-TMSI and P-TMSI signature. USIM shall be considered invalid until power is switched off or USIM is removed.

Reference

3GPP TS 24.008 clauses 4.7.7.5

12.6.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the authentication and ciphering procedure.

12.6.1.2.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
Both cells are operating in network operation mode II.

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

The test sequence is repeated for K = 1, 2.

A complete PS attach procedure is performed., and tThe SS rejects the following authentication and ciphering procedure. The UE is paged with its former P-TMSI and shall not respond.
The Cell is changed into a new Routing Area.

The SS checks that the UE does not perform normal routing area updating., does not perform periodic routing area updating.

The SS then checks that the UE and does not perform a PS detach if switched off.

The SS checks that the UE does not perform a PS Attach procedure.

T3312; set to 10 minutes.

Expected Sequence

The test sequence is repeated for k = 1, 2

For k =1, the UE is set in UE operation mode C. If MS operation mode C not supported then k = 2.

For k = 2 the UE is set in UE operation mode A.

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
~~2~~	~~UE~~			~~The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 14.~~
2~~3~~	UE			The UE is powered up or switched on and initiates an attach (see ICS).
3~~4~~	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
4	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
5~~6~~	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Set PS-CKSN-1
7~~6~~	->		AUTHENTICATION AND CIPHERING RESPONSE	RES
8~~7~~	<-		AUTHENTICATION AND CIPHERING REJECT	
9~~8~~	<-		PAGING TYPE1	Mobile identity = IMSI Paging order is for PS services.
10~~9~~	UE			No response from the UE to the request. This is checked for 10 seconds.
~~10~~11		SS		The following messages are sent and shall be received on cell B. ~~Activate cell B with a lower signal strength than cell A The RF level of cell A is lowered until cell B is preferred by the UE.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
12	UE			Cell B is preferred by the MS.
13~~11~~	UE			No ROUTING AREA UPDATE REQUEST sent to the SS (SS waits 30 seconds).
~~12~~	~~UE~~			~~No periodic ROUTING AREA UPDATE REQUEST sent to the SS (SS waits Periodic Routing Area Updating timer (T3312) after the Authentication and Ciphering Reject message.)~~
14	UE			If possible (see ICS) the UE initiates an attach by MMI or by AT command.
15	UE			No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
~~13~~16	UE			The UE is switched off (see ICS).
17~~14~~		SS		No DETACH REQUEST sent to the SS (SS waits 30 seconds).
18				The UE is powered up or switched on and initiates an attach (see ICS). Step 19 is only performed for k =2
19	UE		Registration on CS	Parameter mobile identity is IMSI. See TS 34.108
20	->		ATTACH REQUEST	Attach type = 'PS only attached' Mobile identity = IMSI
21	<-		ATTACH ACCEPT	Attach result = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
22	->		ATTACH COMPLETE	

15	UE		The UE is set in UE operation mode A (see ICS). Restore cell A and B according to initial conditions. The test is repeated from step 3 to step 14.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.2.5   Test requirements

At step34, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the UE receives the AUTHENTICATION AND CIPHERING REJECT message, UE shall:

- not respond paging message for PS domain.

At step131, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- not perform normal routing area updating.

At step12, when the timer T3312 expires, UE shall:

- not perform a periodic routing area updating.

At step174, when the UE is switched off, UE shall:

- not perform PS detach procedure.

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

3GPP 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 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
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.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
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).
9	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
10	<-		IDENTITY REQUEST	Identity type = IMSI
11	->	SS	IDENTITY RESPONSE	Mobile identity = IMSI
13	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Including PS-CSKN-1
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	
18		SS		The following messages are sent and shall be received on cell B. ~~Cell B is activated and cell A is deactivated.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
19	->		ROUTING AREA UPDATE 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 UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
22	->		ROUTING AREA UPDATE 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.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.3.1.5 Test requirements

At step6, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information element specified in the above Expected Sequence.

At step9, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST with Invalid Message Authentication Code, UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS

At step11, when the UE receives the IDENTITY REQUEST message with Identity type = IMSI from SS, UE shall:

- send the IDENTITY RESPONSE message with Mobile identity = IMSI to SS.

At step14, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message (containing a valid MAC) from SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message to SS

12.6.1.3.2 GMM cause 'Synch failure'

12.6.1.3.2.1 Definition

12.6.1.3.2.2 Conformance requirement

If the UE considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, the UE shall send AUTHENTICATION AND CIPHERING FAILURE message with the reject cause 'Synch failure' to the System Simulator.

Reference

3GPP TS 24.008 clause 4.7.7.

12.6.1.3.2.3 Test purpose

To test the behaviors of the UE, when the UE considers the SQN (supplied by the core network in the AUTN parameter) to be out of range.

12.6.1.3.2.4 Method of test

Initial condition

System Simulator:

 Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4).
 Both cells are operating in network operation mode II.

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.

UE sends AUTHENTICATION AND CIPHERING FAILURE message with reject cause 'synch failure' to the SS and starts timer T3214.

SS re-initiates an authentication and ciphering procedure.

T3360; set to 6 seconds.

T3320; set to 15 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C is not supported, goto step 21. The following messages are sent and shall be received on cell A.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS).
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
5	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication. SQN is out of range.
6		SS		The SS starts the timer T3360
7	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause = 'Synch failure' AUTS parameter
8		SS		set new authentication vectors. (re-synchronisation)
9	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Including PS-CKSN-1
10	->		AUTHENTICATION AND CIPHERING RESPONSE	RES
11		SS		The SS checks the RES value.
12	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
13	->		ATTACH COMPLETE	
14		SS		The following messages are sent and shall be received on cell B. ~~Cell B is activated, cell A is deactivated.~~ Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
15	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1 PS-CKSN-1
16		SS		The value of PS-CKSN is checked

Step	Direction		Message	Comments
	UE	**SS**		
17	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
18	->		ROUTING AREA UPDATE COMPLETE	
19	UE			The UE is switched off or power is removed (see ICS).
20	->		DETACH REQUEST	Message is not sent if power is removed. Detach type = 'power switched off, PS detach'
21	UE			The UE is set in UE operation mode A (see ICS) and the test is repeated from step 1 to step 20.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.3.2.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information element specified in the above Expected Sequence.

At step7, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message(SQN is out of range.), UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'synch failure' to the SS

At step10, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message from SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message to SS.

At step15, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- perform routing area updating procedure.

12.6.1.3.3 Authentication rejected by the UE / fraudulent network

12.6.1.3.3.1 Definition

12.6.1.3.3.2 Conformance requirement

It can be assumed that the source of the authentication challenge is not genuine (authentication not accepted by the UE) if any of the following occur:

- After sending the AUTHENTICATION & CIPHERING FAILURE message with GMM cause 'MAC failure' the timer T3318 expires;

- Upon receipt of the second AUTHENTICATION & CIPHERING REQUEST message from the network while the T3318 is running and the MAC value cannot be resolved.

If the UE deems that the network has failed in the authentication check, then the UE shall treat the cell where the AUTHENTICATION & CIPERHERING REQUEST message was received as barred, until System Information is refreshed.

Reference

3GPP TS 24.008 clause 4.7.7.6.1.

12.6.1.3.3.3   Test purpose

To test UE treating a cell as barred:

1. when the network sends the second AUTHENTICATION & CIPHERING REQUEST message with invalid MAC code during the timer T3318 is running.

2. when the timer T3318 has expired.

12.6.1.3.3.4   Method of test

Initial condition

System Simulator:

    Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1(RAI-1), cell B in
    MCC1/MNC1/LAC1/RAC2(RAI-2).
    Both cells are operating in network operation mode II.

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
    Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

Two cells are configured. Cell A transmits with higher power so that the UE attempts an attach procedure to cell A.

During the attach procedure, the SS initiates an authentication and ciphering procedure but it sends an incorrect Message Authentication Code (MAC) value in its AUTHENTICATION AND CIPHERING REQUEST message.

The UE sends AUTHENTICATION AND CIPHERING FAILURE message to the SS indicating authentication failure.

The SS repeats a second time the authentication procedure, which fails again. Next, the UE shall attempt to attach to cell B, which again fails. In this case T3318 expires after the second attempt.

The UE shall treat now both cells as barred and shall not attempt to access the network, even if the user triggers the UE to perform an attach procedure.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		~~The SS is configures two cells A and B. Cell A transmits with higher power levels, so that the UE selects cell A for attaching.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
				The following messages are sent and shall be received on cell A.
2	UE			The UE is powered up or switched on and initiates an attach procedure.
3	->		ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
4	<-		AUTHENTICATION AND CIPHERING REQUEST	Request for authentication. Invalid Message Authentication Code (MAC).
5	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
6	<-		AUTHENTICATION AND CIPHERING REQUEST	Request for authentication. Invalid Message Authentication Code (MAC).
7	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
8		SS		SS verifies that the UE does not attempt to access the network for 30s.
9		SS		~~The SS deactivates cell A and activates cell B.~~Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
				UE shall attempt an attach on cell B. The following messages are sent and shall be received on cell B.
10	UE			The UE initiates an attach by MMI or AT command.
11	->		ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
12	<-		AUTHENTICATION AND CIPHERING REQUEST	Request for authentication. Invalid Message Authentication Code (MAC).
13	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
14		SS		SS waits T3318 (20s)
15		SS		SS verifies that the UE does not attempt to access the network for 30s.
16	UE			The UE initiates an attach by MMI or AT command.
17		SS		SS verifies that the UE does not attempt to access the network for 30s.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.3.3.5 Test requirements

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC), UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step7, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC) from the network during a timer T3318 is running, UE shall:

- send an AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step11, when the activated cell is changed from cell A to cell B, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step13, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC), UE shall:

- send an AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step17, when the timer T3318 is expired, UE shall:

- not attempt to access the network.

/******************* Next changes *********************/**

12.8 GMM READY timer handling

The READY timer is not applicable for UMTS.

12.8.1 Definition

12.8.2 Conformance requirement

If a READY timer value is received by an UE capable of both UMTS and GSM in the ATTACH ACCEPT or the ROUTING AREA UPDATE ACCEPT messages, then the received value shall be stored by the UE in order to be used at an intersystem change from UMTS to GSM.

Reference

3GPP TS 24.008 clause 4.7.2.1

12.8.3 Test purpose

To verify the functionality of the READY timer.

12.8.4 Method of test

12.8.4.1 Test procedure1

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC1 (RAI-1).
> Both cells are operating in network operation mode II.

User Equipment:

> The UE has a valid IMSI.

Related ICS/IXIT statements

> Support of PS service   Yes/No
> UE operation mode A   Yes/No
> Switch off on button   Yes/No
> Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

An attach is performed.

T3314; set to 60 seconds

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The following messages are sent and shall be received on cell A. ~~The SS activates cell A.~~Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
2	UE			The UE is set in UE operation mode A (see ICS). If UE operation mode A not supported set the UE in operation mode C. The UE is powered up or switched on and initiates an attach (see ICS).
3		->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
4		<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 T3314 = 60 seconds
5		->	ATTACH COMPLETE	
6	UE			The UE is switched off or power is removed (see ICS).
7		->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.8.5 Test requirements

At step4, when the UE receives the ATTACH ACCEPT or the ROUTING AREA UPDATE ACCEPT messages, UE shall:

- store the received READY timer value.

/********************* **Next changes** *********************/

12.9.3   Service Request / rejected / Illegal MS

12.9.31   Definition

12.9.3.2   Conformance requirement

If the network rejects a service request procedure from the UE with the cause "Illegal MS", the UE shall:

1) set the GPRS update status to GU3 ROAMING NOT ALLOWED and enter state GMM DEREGISTRATED.

2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

3) consider the USIM as invalid for PS service until switched off or the USIM is removed.

Reference

TS 24.008 clauses 4.7.13.4

12.9.3.3   Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "Illegal MS".

12.9.3.4   Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature, RAI-1 and 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

Test procedure

a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #3(Illegal MS).

c) After the UE receives the SERVICE REJECT message with the cause value #3(Illegal MS), the UE deletes any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

d) The SS checks that the UE does not initiate an upper-layer signalling until the power of the UE is switched off.

e) The SS checks that the UE does not initiate an upper-layer signalling until the USIM is removed from the UE.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1	UE			The following message are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II and activates cell A.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
~~6~~	~~->~~		~~ATTACH COMPLETE~~	
7	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	<-		SERVICE REJECT	Reject cause = "Illegal MS"
10	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
11		SS		The SS verifies that the UE does not attempt to access the network. (SS waits 30 seconds)
12	UE			The UE is switched off.
~~13~~	~~->~~		~~DETACH REQUEST~~	~~Detach type = 'power switched off, PS detach'~~
14	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
15	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
16	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
17	->		ATTACH COMPLETE	
18	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
19	->		SERVICE REQUEST	Service type = "signalling"
20	<-		SERVICE REJECT	Reject cause = "Illegal MS"
21	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
22		SS		The SS verifies that the UE does not attempt to access the network. (SS waits 30 seconds)
23	UE			USIM is removed.
~~24~~	~~->~~		~~DETACH REQUEST~~	
24	UE			USIM is inserted.
25	UE			The UE initiates a PS attach, by MMI or by AT command.
26	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
27	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1

Step	Direction		Message	Comments
	UE	SS		
28	->		ATTACH COMPLETE	
29	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
30	->		SERVICE REQUEST	Service type = "signalling"
31	<-		AUTHENTICATION AND CIPHERING REQUEST	
32	->		AUTHENTICATION AND CIPHERING RESPONSE	
33		SS		The SS initiate a security mode control procedure.
34		SS		After the security mode control procedure is completed, the SS releases RRC connection.
35	UE			The UE is switched off or power is removed (see ICS).
36	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

None.

12.9.3.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives the SERVICE REJECT message with cause "Illegal MS" UE shall:

- not attempt to access the network.

At step15, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step22, when the UE receives the SERVICE REJECT message with cause "Illegal MS" UE shall:

- not attempt to access the network.

At step26, when the USIM is replaced, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step30, UE shall:

- initiate the service request procedure.

12.9.4 Service Request / rejected / PS services not allowed

12.9.41 Definition

12.9.4.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "PS services not allowed", the UE shall:

1) set the GPRS update state to GU3 ROAMING NOT ALLOWED.

2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

3) consider the USIM as invalid for PS service until the UE is switched off or until the USIM is removed.

Reference

TS 24.008 clauses 4.7.13.4

12.9.4.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "PS service not allowed".

12.9.4.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

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

Test procedure

a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #7(PS services not allowed).

c) After the UE receives the SERVICE REJECT message with the cause value #7(PS services not allowed), the UE deletes any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

d) The SS checks that the UE does not initiate an upper-layer signalling until the UE is switched off.

e) The SS checks that the UE does not initiate an upper-layer signalling until the USIM is removed from the UE.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The following message are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2	SS			The SS is set in network operation mode II and activates cell A.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
~~6~~	~~->~~		~~ATTACH COMPLETE~~	
7	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	<-		SERVICE REJECT	Reject cause = "PS services not allowed"
10	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
11	SS			The SS verifies that the UE does not attempt to access the network. (SS wait 30seconds)
12	UE			The UE is switched off.
~~13~~	~~->~~		~~DETACH REQUEST~~	~~Detach type = 'power switched off, PS detach'~~
14	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
15	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
16	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
17	->		ATTACH COMPLETE	
18	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
19	->		SERVICE REQUEST	Service type = "signalling"
20	<-		SERVICE REJECT	Reject cause = "PS services not allowed"
21	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
22	SS			The SS verifies that the UE does not attempt to access the network. (SS wait 30seconds)
23	UE			USIM is removed.
~~24~~	~~->~~		~~DETACH REQUEST~~	
24	UE			USIM is inserted.
25	UE			The UE initiates a PS attach, by MMI or by AT command.
26	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
27	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-3
28	->		ATTACH COMPLETE	

Step	Direction		Message	Comments
	UE	**SS**		
29	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
30	->		SERVICE REQUEST	Service type = "signalling"
31	<-		AUTHENTICATION AND CIPHERING REQUEST	
32	->		AUTHENTICATION AND CIPHERING RESPONSE	
33		SS		The SS initiate a security mode control procedure.
34		SS		After the security mode control procedure is completed, the SS releases RRC connection.
35	UE			The UE is switched off or power is removed (see ICS).
36	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

12.9.4.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives the SERVICE REJECT message with cause "PS services not allowed" UE shall:

- not attempt to access the network.

At step15, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step22, when the UE receives the SERVICE REJECT message with cause "PS services not allowed" UE shall:

- not attempt to access the network.

At step26, when the USIM is replaced, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step30, UE shall:

- initiate the service request procedure.

12.9.5 Service Request / rejected / MS identity cannot be derived by the network

12.9.5.1 Definition

12.9.5.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "MS identity cannot be derived by the network", the UE shall:

1) set the GPRS update states to GU2 NOT UPDATED.

2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

3) initiate the PS attach procedure automatically.

Reference

TS 24.008 clauses 4.7.13.4

12.9.5.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "MS identity cannot be derived by the network".

12.9.5.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

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) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #9 (MS identity cannot be derived by the network).

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The following message are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2	SS			The SS is set in network operation mode II and activates cell A.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
~~6~~	~~->~~		~~ATTACH COMPLETE~~	
7	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	<-		SERVICE REJECT	Reject cause = "MS identity cannot be derived by the network"
10	UE			The UE automatically initiates the PS attach procedure.
11	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
12	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature
13	->		ATTACH COMPLETE	
14	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
15	->		SERVICE REQUEST	Service type = "signalling"
<u>16</u>	<u><-</u>		<u>AUTHENTICATION AND CIPHERING REQUEST</u>	
<u>17</u>	<u>-></u>		<u>AUTHENTICATION AND CIPHERING RESPONSE</u>	
<u>18</u>	<u>SS</u>			<u>The SS initiate a security mode control procedure.</u>
<u>19</u>	<u>SS</u>			<u>After the security mode control procedure is completed, the SS releases RRC connection.</u>
<u>20</u>~~16~~	UE			The UE is switched off or power is removed (see ICS).
<u>21</u>~~17~~	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

None.

12.9.5.5   Test requirements

At step4, when the UE is powered on or switched on, UE shall:

-    initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives the SERVICE REJECT message with cause "MS identity cannot be derived by the network" UE shall:

- initiate PS attach procedure automatically.

12.9.6 Service Request / rejected / PLMN not allowed

12.9.6.1 Definition

12.9.6.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "PLMN not allowed", the UE shall:

1) delete any RAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number.

2) set the GPRS update status to GU3 ROAMING NOT ALLOWED.

3) store the LAI or the PLMN identity in the appropriate forbidden list.

Reference

TS 24.008 clauses 4.7.13.4

12.9.6.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "PLMN not allowed".

12.9.6.4 Method of test

Initial condition

System Simulator:

> Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 cell B in
> MCC2/MNC1/LAC1/RAC1.
> All two cells are operating in network operation mode II.

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

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

Test procedure

a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #11 (PLMN not allowed).

c) The SS checks that the UE does not initiate an upper-layer signalling until the UE is switched off.

d) The SS checks that the UE does not answer a Page from the SS until the power of the UE is switched off.

Expected Sequence

Step	Direction UE	Direction SS	Message	Comments
1	UE			The following message are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II and activates cell A. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
6	->		ATTACH COMPLETE	
7	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	<-		SERVICE REJECT	Reject cause = "PLMN not allowed"
10	UE			The UE stores the LAI or the PLMN identity in the "forbidden PLMN list".
11	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
12		SS		The SS verifies that the UE does not attempt to access the network. (SS wait 30second)
13	<-		PAGING TYPE1	Paging order is for PS service
14	UE			No response from the UE to the request. This is checked for 10 seconds.
15		SS		The following messages shall be sent and shall be received on cell B. The SS deactivates cell A and activates cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
16	UE			Cell D B is preferred by the UE.
17	UE			The UE initiates an attach automatically, by MMI or by AT command.
18	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
19	<-		ATTACH ACCEPT	Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-2 Attach result = 'PS only attached'
20	->		ATTACH COMPLETE	
21	UE			The UE is switched off or power is removed (see ICS).
22	->		DETACH REQUEST	

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.9.6.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step12, when the UE receives the SERVICE REJECT message with cause "PLMN not allowed", UE shall:

- not perform a PS attach procedure in the same PLMN.

At step13, when the UE receives the paging message for PS domain UE shall:

- not respond to the paging message for PS domain.

At step18, UE shall:

- perform PS attach procedure.

/******************* Next changes ********************/**

12.9.7b Service Request / rejected / No Suitable Cells In Location Area

12.9.7b.1 Definition

12.9.7b.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "No Suitable Cells In Location Area", the UE shall:

1) delete any RAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number.

2) set the GPRS update status to GU3 ROAMING NOT ALLOWED.

3) store the LAI or the PLMN identity in the list of 'forbidden location areas for roaming'.

4) search for a suitable cell in a different location area on the same PLMN.

Reference

TS 24.008 clauses 4.7.13.4

12.9.7b.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "No Suitable Cells In Location Area".

12.9.7b.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

All three cells are operating in network operation mode II.

User Equipment:

The UE has valid IMSI.

Related ICS/IXIT statements

Support of PS service   Yes/No
UE operation mode A   Yes/No
Switch off on button   Yes/No
Automatic PS attach procedure at switch on or power on   Yes/No

Test procedure

The SS rejects a Service request with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
		SS		~~The SS activates three cells simultaneously.~~ Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". Set the cell type of cell C to the "Suitable neighbour cell". (note) The SS configures power level of each Cell as follows. Cell A > Cell B = Cell C
1	UE			The UE is set in UE operation mode A (see ICS).
2	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
3	->		ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4	<-		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	->		ATTACH COMPLETE	
6		SS		The SS initiates the RRC connection release.
7	UE			The UE initiates a PS call, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	<-		SERVICE REJECT	Reject cause = "No Suitable Cells In Location Area" The following message are sent and shall be received on cell B.
10	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
11	<-		ATTACH ACCEPT	Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-2 Attach result = 'PS only attached'
12	->		ATTACH COMPLETE	
13	UE			The UE is switched off or power is removed (see ICS).
14	->		DETACH REQUEST	

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.9.7b.5   Test requirements

At step3, when the UE is powered on or switched on, UE shall:

-    initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step10, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

-    perform the PS attach procedure.

/********************* **Next changes** *********************/

12.9.9 Service Request / Abnormal cases / Routing area update procedure is triggered

12.9.9.1 Definition

12.9.9.2 Conformance requirement

If a cell change into a new routing area occurs and the necessity of routing area update procedure is determined before the security mode control procedure is completed, the UE shall:

- abort Service request procedure.

- start routing area update procedure immediately.

Reference

TS 24.008 clause 4.7.13.5

12.9.9.3 Test purpose

To test the behavior of the UE in case of collision between Routing area update procedure and Service request procedure.

12.9.9.4 Method of test

Initial condition

System Simulator:

> Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

User Equipment:

> The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

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

Test procedure

a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) The UE initiates the routing area update procedure.

c) The UE aborts Service request procedure and performs Routing area updating procedure.

Expected Sequence

Step	Direction UE	SS	Message	Comments
1	UE			The following message are sent and shall be received on cell A. The UE is set in UE operation mode C (see ICS).
2		SS		The SS is set in network operation mode II ~~and activates cell A~~. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell". (note)
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
~~6~~	~~->~~ UE		~~ATTACH COMPLETE~~	The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
7	->		SERVICE REQUEST	Service type = "signalling"
8		SS		Activate cell B with a lower signal strength than cell A The RF level of cell A is lowered until cell B is preferred by the UE.
9	UE			The UE aborts Service request procedure.
				Set the cell type of cell A to the "Suitable neighbour cell". Set the cell type of cell B to the "Serving cell". (note) The following message are sent and shall be received on cell B.
10	->		ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature
11	<-		ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
12	->		ROUTING AREA UPDATE COMPLETE	
13	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
14	->		SERVICE REQUEST	Service type = "signalling"
15	<-		AUTHENTICATION AND CIPHERING REQUEST	
16	->		AUTHENTICATION AND CIPHERING RESPONSE	
17		SS		The SS initiate a security mode control procedure.
18		SS		After the security mode control procedure is completed, the SS releases RRC connection.
~~15~~19	UE			The UE is switched off or power is removed (see ICS).
~~16~~20	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.9.9.5 Test requirements

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence .

At step7, UE shall:

- perform the service request procedure.

At step10, when the routing area update procedure is initiated before the security mode control procedure is completed, UE shall;

- abort a Service request procedure

- perform the routing area updating procedure.

At step14, after the UE completes the routing area updating procedure, UE shall;

- restart the Service Request procedure.

12.9.11 Service Request / Abnormal cases / Service request procedure collision

12.9.11.1 Definition

12.9.11.2 Conformance requirement

When the UE in GMM-SERVICE-REQUEST-INITIATED state receives a DETACH REQUEST message from the network, UE shall:

- perform the PS detach procedure.

- abort Service request procedure.

Reference

TS 24.008 clauses 4.7.13.5

12.9.11.3 Test purpose

To test the behaviour of the UE in case of collision between Service request procedure and PS detach procedure.

12.9.11.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

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

Test procedure

a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.

b) The SS sends a DETACH REQUEST message to the UE, before the security procedure is not started.

c) After the UE receives the DETACH REQUEST message, the UE aborts the Service request procedure.

Expected Sequence

Step	Direction		Message	Comments
	UE	**SS**		
				The following message are sent and shall be received on cell A.
1	UE			The UE is set in UE operation mode C (see ICS).
2	SS			The SS is set in network operation mode II and activates cell A.
3	UE			The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
4	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
5	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
~~6~~	~~->~~		~~ATTACH COMPLETE~~	
7	UE			The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
8	->		SERVICE REQUEST	Service type = "signalling"
9	SS			The SS does not respond to SERVICE REQUEST message.
10	<-		DETACH REQUEST	GMM cause = "reattach request"
11	->		ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1
12	<-		ATTACH ACCEPT	No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1 Attach result = 'PS only attached'
13	->		ATTACH COMPLETE	
14	UE			The UE is switched off or power is removed (see ICS).
15	->		DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

None.

12.9.11.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives a DETACH REQUEST message from the network before the Service request procedure completes, UE shall;

- abort the Service request procedure.

- perform the PS detach procedure.

3GPP TSG-T1 Meeting #14
Sophia Antipolis, France, 21-22 February 2002

Tdoc T1-020038

3GPP TSG-T1/SIG Meeting #21
Sophia Antipolis, France, 18-20 February 2002

Tdoc T1S-020065r1

CR-Form-v3

CHANGE REQUEST

⌘	**TS 34.123-1** CR **131**	⌘ rev	**-**	⌘	Current version:	**4.1.0**	⌘

*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 of Idle mode tests	
Source: ⌘	Ericsson	
Work item code: ⌘	TEI	***Date:*** ⌘ 2002-02-07
Category: ⌘	**F**	***Release:*** ⌘ REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	2 *(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	R96 *(Release 1996)*
B *(Addition of feature),*	R97 *(Release 1997)*
C *(Functional modification of feature)*	R98 *(Release 1998)*
D *(Editorial modification)*	R99 *(Release 1999)*
Detailed explanations of the above categories can	REL-4 *(Release 4)*
be found in 3GPP TR 21.900.	REL-5 *(Release 5)*

Reason for change: ⌘	CPICH_Ec shall be used as quality measure instead of CPICH_Ec/Io Incorrect values in table 6.2 for MNC2 and MNC3.
Summary of change: ⌘	It has been decided by T1 not to apply Ioc in the SS. This makes it impossible to set CPICH_Ec/Io to the desired values in the test cases. It is therefore decided to use CPICH_RSCP instead as UE quality measure for cell reselection, i.e. UE Cell_selection_and_reselection_quality_measure is set to CPICH RSCP. CPICH_Ec is specified in the test cases below instead of CPICH_RSCP as RSCP is a receiver measurement and only CPICH_Ec can be directly controlled by the SS. Table 6.2: values for MNC2 and MNC3 corrected to be aligned with ASN.1 definition.
Consequences if not approved: ⌘	It will not be possible to implement the test cases in the SS if CPICH_Ec/Io is used as a quality measure.

Clauses affected: ⌘	Clause 6

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

Other comments: ⌘	Affects R99 and REL-4

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 ch anges") 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.

Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The present document is the first part of a multi-part conformance specification valid for 3GPP Release 1999 and 3GPP Release 4. 3GPP TS 34.123-2 [11] contains a pro-forma for the Implementation Conformance Statement (ICS) and an applicability table, indicating the release from which each tescase is applicable. 3GPP TS 34.123-3 [12] contains a detailed and executable description of the test cases written in a standard testing language, TTCN, as defined in ISO/IEC 9646.

For at least a minimum set of services, the prose descriptions of test cases will have a matching detailed test case implemented in TTCN [12].

For Release 1999, the minimum set of services are defined as:

- voice calls;

- emergency calls;

- SMS (both Point-to-point and Cell broadcast);

- Circuit Switched data at up to 64 k bits/second;

- fax;

including the underlying layers to support these services.

Release 1999 will also include the areas:

- auto-calling restrictions.

The present document may contain descriptions of tests for additional services, but these tests may not have matching TTCN test cases.

The present document will not contain any tests on the USIM, or the interface between the UE and the USIM. These tests are documented elsewhere.

1   Scope

The present document specifies the protocol conformance testing for the 3rd Generation User Equipment (UE).

This is the first part of a multi-part test specification. The following information can be found in this part:

-        the overall test structure;

-        the test configurations;

-        the conformance requirement and reference to the core specifications;

-        the test purposes; and

-        a brief description of the test procedure, the specific test requirements and short message exchange table.

The following information relevant to testing can be found in accompanying specifications:

-        the default setting of the test parameters [9];

-        the applicability of each test case [11].

A detailed description of the expected sequence of messages can be found in the 3rd part of this test specification.

The Implementation Conformance Statement (ICS) pro-forma can be found in the 2nd part of the present document.

The present document is valid for UE implemented according to 3GPP Release 1999 or 3GPP Release 4.

2   References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.

-        For a Release 1999 UE, references to 3GPP documents are to version 3.x.y, when available.

-        For a Release 4 UE, references to 3GPP documents are to version 4.x.y, when available.

[1]   3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2]   3GPP TS 23.003: "Numbering, Addressing and Identification".

[3]   3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

[4]   3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".

[5]   3GPP TS 25.214: "Physical layer procedures (FDD)".

[6]   3GPP TS 25.321: "MAC protocol specification".

[7]   3GPP TS 25.322: "RLC protocol specification".

[8]   3GPP TS 25.331: "RRC Protocol Specification".

[9]   3GPP TS 34.108: "Common Test Environments for User Equipment (UE) Conformance Testing".

[10]   3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[11]   3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[12]   3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".

[13]   3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification ".

[14]   ISO/IEC 9646 (all parts): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework".

[15]   3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".

[16]   3GPP TS 34.121: "Terminal Conformance Specification; Radio Transmission and Reception (FDD)".

[17]   3GPP TS 34.122: "Terminal Conformance Specification; Radio Transmission and Reception (TDD)".

[18]   3GPP TS 31.102: "Characteristics of the USIM Application".

[19]   3GPP TS 25.224: "Physical Layer Procedures (TDD)".

[20]   3GPP TS 25.215: "Physical layer - Measurements (FDD)".

[21]   3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)".

[22]   3GPP TS 25.123: "Requirements for support of radio resource management (TDD)".

[23]   3GPP TS 25.133: "Requirements for Support of Radio Resource Management (FDD)".

[24]   3GPP TS 03.22: "Functions related to Mobile Station (MS) in idle mode and group receive mode".

[25]   3GPP TS 04.18: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".

[26]   3GPP TS 05.08: "Radio Subsystem Link Control".

[27]   3GPP TS 22.001: "Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".

[28]   3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

[29]   3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[30]   3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) Specification".

[31]   3GPP TS 33.102: "3G Security; Security Architecture".

[32]   3GPP TS 23.060: "General Packet Radio Service (GPRS) Service description; Stage 2".

[33]   Void.

[34]   3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[35]   3GPP TS 23.038: "Alphabets and language-specific information".

[36]   3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[37]   3GPP TS 25.324: "Broadcast/Multicast Control BMC".

[38]   3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[39]   RFC 2507: "IP Header Compression".

3   Definitions and abbreviations

3.1   Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 apply, unless specified below:

example: text used to clarify abstract rules by applying them literally

3.2   Abbreviations

For the purposes of the present document, the abbreviations specified in TR 25.905 apply, with any additional abbreviations specified below:

   SS   System Simulator

4   Overview

4.1   Test Methodology

4.1.1   Testing of optional functions and procedures

Any function or procedure which is optional, as indicated in the present document , may be subject to a conformance test if it is implemented in the UE.

A declaration by the apparatus supplier (ICS) is used to determine whether an optional function/procedure has been implemented.

4.1.2   Test interfaces and facilities

Detailed descriptions of the UE test interfaces and special facilities for testing are provided in [10].

4.2   Implicit Testing

For some 3GPP signalling and protocol features conformance is not verified explicitly in the present document. This does not imply that correct functioning of these features is not essential, but that these are implicitly tested to a sufficient degree in other tests.

5   Reference Conditions

The reference environments used by all signalling and protocol tests are specified in TS 34.108. Where a test requires an environment that is different, this will be specified in the test itself.

5.1 Generic setup procedures

A set of basic generic procedures for radio resource signalling, and generic setup procedures for layer 3 NAS signalling are described in TS 34.108 clause 7. These procedures are used in numerous test cases throughout the present document.

6 Idle mode operations

In the following paragraphs some explanatory text is given concerning the nature of the tests in this clause and the general behaviour of the SS is described.

Since the conformance requirements of most of the tests in this clause cannot be tested explicitly, testing is done implicitly by testing the UE behaviour from its responses to the SS.

In some cases, a test is performed in multiple stages in order that the requirements can be tested within the above constraints.

For any UE all the carriers are in its supported band(s) of operation.

Unless otherwise stated in the method of test, in all of the tests of this clause:

- the default values of the system information data fields given in TS 34.108 are used;

- the UE is equipped with a USIM containing default values. The USIM is in the idle updated state in the default location area with a TMSI assigned at the beginning of each test;

- the cells shall be configured such that Squal>0 (FDD only) and Srxlev>0 while applying Qqualmin (FDD only) and Qrxlevmin in table 6.1. In addition, for an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm (definition of High Quality cell, see TS 25.304, clause 5.1.2.2). In addition, for a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to –84 dBm (definition of High Quality cell, see TS 25.304, clause 5.1.2.2).

Three different methods A, B and C are applied in the tests:

Method A:

- the SS is continuously paging the UE on all cells at the start of the test and does not respond to RACH requests from the UE (which causes a cell reselection). Where a test specifies that the UE is not paged on a particular cell, only idle paging is transmitted. This method is similar to the one used in TS 51.010-1, clause 20.

Method B:

- the SS is continuously paging the UE on all cells at the start of the test and responds to RACH requests from the UE with an IMMEDIATE ASSIGNMENT REJECT (GERAN cell) or RRC CONNECTION REJECT (UTRAN cell) message which causes the UE to return to Idle mode. Where a test specifies that the UE is not paged in a particular cell, only idle paging is transmitted.

Method C:

- no continuously paging as in method A or B. Normal response to RACH requests so Location Updating and Calls can be done.

Table 6.1: Default values of the system information fields

Parameter	Setting
IMSI attach/detach	Method A, B: Not allowed Method C: Allowed
Intra-frequency cell re-selection indicator	Allowed
Cell_selection_and_reselection_quality_measure	CPICH RSCP~~Ec/No~~ (FDD)
Qqualmin (FDD only)	~~-20~~-24 dB
Qrxlevmin (FDD)	-115 dBm
Qrxlevmin (TDD)	-103 dBm
DRX cycle length	1,28 s

CPICH_Ec/Io and SCH_Ec/Io shall fulfil requirements in TS 25.133, 8.1.2.2.1: The UE is able to identify a new detectable cell belonging to the monitored set within $T_{identify\ intra}$ when CPICH Ec/Io > -20 dB and SCH_Ec/Io > -20 dB.

It is a UE option whether to indicate access technologies to the user (TS 23.122, clause 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.

If a parameter is indicated with a *, it means that the parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The PLMN numbers indicated in table 6.2 are used in test cases to associate a cell with an MCC and MNC for that cell. If no PLMN is explicitly specified, the default value is PLMN 1.

**Table 6.2: Location Area Information (LAI) in System Information
type 3 messages broadcast on the BCCH**

PLMN	MCC1	MCC2	MCC3	MNC1	MNC2	MNC3	LAC
1	0	0	1	0	1	Not present~~F~~	x
2	0	0	2	1	1~~F~~	Not present~~F~~	x
3	0	0	4	2	1~~F~~	Not present~~F~~	x
4	0	0	5	3	1~~F~~	Not present~~F~~	x
5	0	0	6	4	1~~F~~	Not present~~F~~	x
6	0	0	7	5	1~~F~~	Not present~~F~~	x
7	0	0	8	6	1~~F~~	Not present~~F~~	x
8	0	0	9	7	1~~F~~	Not present~~F~~	x
9	0	1	0	0	2~~F~~	Not present~~F~~	x
10	0	1	1	1	2~~F~~	Not present~~F~~	x
11	0	1	2	2	2~~F~~	Not present~~F~~	x
12	0	1	3	3	2~~F~~	Not present~~F~~	x
NOTE: 'x' denotes any value.							

References: TS 23.122, annex A and TS 23.003, clause 2.

The test channel numbers indicated in tables 6.3, 6.4 and 6.5 are used in test cases to associate a cell with a frequency for that cell. The frequencies for GSM and DCS cells in table 6.5 are identical to those used in TS 51.010-1, clause 26.3.1. The RF signal levels for GSM cells are given in table 6.5 for UTRAN FDD cells in TS 34.108, table 6.1.1 and for UTRAN TDD cells in TS 34.108, table 6.1.5. If no channel is explicitly specified, the default value is Test Channel 1.

Table 6.3: UTRA (FDD) test frequencies

Test Channel	CPICH_~~RSCP~~ Ec dBm / 3.84 MHz	UARFCN	ITU region 2 CPICH_~~RSCP~~Ec dBm / 3.84 MHz	UARFCN
1	-72	9 613	-72	9 263
2	-75	9 663	-75	9 313
3	-78	9 713	-78	9 363
4	-81	9 763	-81	9 413
5	-84	9 813	-84	9 463
6	-87	9 863	-87	9 513

References: TS 34.108, clause 5.1.1 and TS 34.121, clause 4.

Table 6.4: UTRA TDD test frequencies

Test Channel	P-CCPCH_ RSCP [dBm]	UARFCN	ITU region 2 P-CCPCH_ RSCP [dBm]	UARFCN
1	-61	9 513	-61	9 263
2	-64	9 550	-64	9 537
3	-67	9 587	-67	9 663
4	-70	10 063	-70	9 937
5	-73	10 087	-73	9 563
6	-76	10 112	-76	9 637

References: TS 34.108, clause 5.1.2 and TS 34.122, clause 4.

Table 6.5: GSM/DCS test frequencies and levels

Test Channel	GSM 900 level dBµVemf( ) / dBm	BCCH ARFCN	DCS 1 800 level dBµVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	1	+65 / -48	520
2	+63 / -50	7	+63 / -50	580
3	+61 / -52	39	+61 / -52	610
4	+55 / -58	65	+55 / -58	702
5	+59 / -54	66	+59 / -54	703
6	+57 / -56	85	+57 / -56	830
7	+55 / -58	97	+55 / -58	885
8	+53 / -60	124		

Test Channel	GSM 450 level dBµVemf( ) / dBm	BCCH ARFCN	DCS 480 level dBµVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	259	+65 / -48	306
2	+63 / -50	261	+63 / -50	308
3	+61 / -52	267	+61 / -52	314
4	+55 / -58	268	+55 / -58	315
5	+59 / -54	281	+59 / -54	328
6	+57 / -56	288	+57 / -56	335
7	+55 / -58	291	+55 / -58	338
8	+53 / -60	293	+53 / -60	340

Test Channel	Multiband 900/1800		PCS 1900	
	level dBμVemf( ) / dBm	BCCH ARFCN	level dBmVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	520	+65 / -48	512
2	+63 / -50	7	+63 / -50	520
3	+61 / -52	39	+61 / -52	580
4	+55 / -58	702	+55 / -58	610
5	+59 / -54	66	+59 / -54	702
6	+57 / -56	85	+57 / -56	703
7	+55 / -58	885	+55 / -58	800
8	+53 / -60	124		

Test Channel	Multiband 450/900		Multiband 480/900	
	level dBμVemf( ) / dBm	BCCH ARFCN	level dBμVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	1	+65 / -48	1
2	+63 / -50	261	+63 / -50	308
3	+61 / -52	267	+61 / -52	314
4	+55 / -58	65	+55 / -58	65
5	+59 / -54	281	+59 / -54	328
6	+57 / -56	288	+57 / -56	335
7	+55 / -58	124	+55 / -58	124
8	+53 / -60	293	+53 / -60	340

Test Channel	Multiband 450/1800		Multiband 480/1800	
	level dBμVemf( ) / dBm	BCCH ARFCN	level dBμVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	520	+65 / -48	520
2	+63 / -50	261	+63 / -50	308
3	+61 / -52	267	+61 / -52	314
4	+55 / -58	702	+55 / -58	702
5	+59 / -54	281	+59 / -54	328
6	+57 / -56	288	+57 / -56	335
7	+55 / -58	885	+55 / -58	885
8	+53 / -60	293	+53 / -60	340

For testing an E-GSM Mobile station, the BCCH ARFCN of GSM Test Channel 7 at GSM 900 column shall be 985 (instead of 97). For testing an R-GSM Mobile station, the BCCH ARFCN of GSM Test Channel 7 at GSM 900 column shall be 965 (instead of 97).

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, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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 PLMNs in the "forbidden PLMNs" list 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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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 PLMNs" 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, clause 4.4.3.1;

2. TS 23.122, clause 4.4.3.1.2;

3. TS 23.122, clause 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.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP.~~ Cell levels are from table 6.3. (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ ~~RSCP~~Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-72	-61	1	PLMN 1
Cell 2	-75	-64	2	PLMN 2
Cell 3	-78	-67	3	PLMN 3
Cell 4	-81	-70	4	PLMN 4
Cell 5	-84	-73	5	PLMN 5
Cell 6	-87	-76	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	

Test procedure

Method B is applied.

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.

2) In step e), the list shall be presented. 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.

4) In step h), the list shall be presented. 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.

7) In step l), the list shall be presented. 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.

9) In step o), the list shall be presented. 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.

11) After step q), the UE shall inform 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, or following recovery from lack of coverage,the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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 PLMNs in the "forbidden PLMNs" list 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.

In 2.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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 PLMNs" 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".

4. The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:

    - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.

    - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to –84 dBm.

Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

References

1. TS 23.122, clause 4.4.3.1.

2. TS 23.122, clause 4.4.3.1.2.

3. TS 23.122, clause 3.1.

4. TS 25.304, clause 5.1.2.2.

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 manual PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_~~RSCP~~ Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	High Quality signal	Test Channel	PLMN
Cell 1	-85	-74	Yes	1	PLMN 6
Cell 2	-80	-69	Yes	2	PLMN 7
Cell 3	-80	-69	Yes	3	PLMN 8
Cell 4	-98	-87	No	4	PLMN 9
Cell 5	-101	-90	No	5	PLMN 10
Cell 6	-104	-93	No	6	PLMN 11

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	

Test procedure

Method B is applied.

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. 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.

3) In step f), the list shall be presented. 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.

5) In step i), the list shall be presented. 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.

7) In step l), the list shall be presented. 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.

9) In step o), the list shall be presented. 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 and shall only contain PLMN 8.

11) In step r), the UE shall respond on Cell 3. The displayed PLMN shall be PLMN 8.

12) After step s), the UE shall inform that no network is available.

6.1.1.3 PLMN selection; independence of RF level and preferred PLMN; Manual mode

6.1.1.3.1 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.

6.1.1.3.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage,the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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 PLMNs in the "forbidden PLMNs" list 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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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.

References

1. TS 23.122, clause 4.4.3.1.

2. TS 23.122, clause 4.4.3.1.2

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.

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.

6.1.1.3.4   Method of investigation

Initial conditions

The UE is in manual PLMN selection mode.

"IMSI attach" flag in the BCCH is set to allowed.

For FDD only:

Step a-d:

Parameter	Unit	Cell 1	Cell 2	Cell 3
Test Channel		1	2	3
CPICH_Ec/Io	dBm/3.84 MHz	-12-60	-15-70	OFF
Qqualmin	dB	-20	-20	-20
Squal*	dB	8	5	-
PLMN		1	2	3

Step e-f:

CPICH_Ec/Io	dBm/3.84 MHz	-12-60 -> OFF	-15-70	OFF

Step g-h:

CPICH_Ec/Io	dBm/3.84 MHz	OFF	-15-70	OFF -> -12-60

Step i-l:

CPICH_Ec/Io	dBm/3.84 MHz	OFF	-15-70 -> OFF	-12-60

For TDD only:

Step a-d:

Parameter	Unit	Cell 1	Cell 2	Cell 3
Test Channel		1	2	3
P-CCPCH RSCP	dBm	-69	-72	OFF
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	31	-
PLMN		1	2	3

Step e-f:

P-CCPCH RSCP		-69 -> OFF	-72	OFF

Step g-h:

P-CCPCH RSCP		OFF	-72	OFF -> -69

Step i-l:

P-CCPCH RSCP		OFF	-72 -> OFF	-69

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

USIM field	Priority	PLMN
EF$_{LOCI}$		
EF$_{HPLMNwAcT}$	1st	PLMN 1
EF$_{PLMNwAcT}$	1st	PLMN 3

Test procedure

Method C is applied.

   a) The SS activates cells 1 and 2.

   b) The UE is switched on.

   c) PLMN 1 is selected manually.

   d) The SS waits for random access requests from the UE. A complete Location Update is done.

   e) Cell 1 is switched off.

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

   g) Cell 3 is switched on.

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

i) PLMN 2 is selected manually.

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

6.1.1.3.5 Test Requirements

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

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

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, or following recovery from lack of coverage,the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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 the "forbidden LAs for regional provision of service" 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 PLMNs" 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, clause 4.4.3.1.

2. TS 23.122, clause 4.4.3.1.1.

3. TS 23.122, clause 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 PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP.~~ Cell levels are from table 6.3 (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ ~~RSCP~~Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-72	-61	1	PLMN 1
Cell 2	-75	-64	2	PLMN 2
Cell 3	-78	-67	3	PLMN 3
Cell 4	-81	-70	4	PLMN 4
Cell 5	-84	-73	5	PLMN 5
Cell 6	-87	-76	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	

Test procedure

Method B is applied.

   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.

   2) In step e), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 2.

   3) In step g), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 4.

   4) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN 5.

   5) In step l), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 6.

   6) After step m), the UE shall inform 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, or following recovery from lack of coverage,the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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.

   In 2.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

   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 the "forbidden LAs for regional provision of service" 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 PLMNs" 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".

4. The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:

   - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.

   - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to –84 dBm.

   Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

References

1. TS 23.122, clause 4.4.3.1.

2. TS 23.122, clause 4.4.3.1.1.

3. TS 23.122, clause 3.1.

4. TS 25.304, clause 5.1.2.2.

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 PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_~~RSCP~~ Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	High Quality signal	Test Channel	PLMN
Cell 1	-85	-74	Yes	1	PLMN 6
Cell 2	-80	-69	Yes	2	PLMN 7
Cell 3	-80	-69	Yes	3	PLMN 8
Cell 4	-98	-87	No	4	PLMN 9
Cell 5	-101	-90	No	5	PLMN 10
Cell 6	-104	-93	No	6	PLMN 11

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	

Test procedure

Method B is applied.

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 PLMN 6.

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.

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.

4) In step i), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 9.

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

6) After step l), the UE shall inform that only limited service is possible.

6.1.1.6 UE will transmit only if PLMN available

6.1.1.6.1 Definition

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

6.1.1.6.2 Conformance requirement

[FFS: Currently no requirements exist in core specs.]

6.1.1.6.3 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 generate any RF output when no PLMN is available.

6.1.1.6.4 Method of test

Initial conditions

For FDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec/Io	dBm/ 3.84 MHz	-13-60	-15-65	-17-70
Qqualmin	dB	-20	-20	-20
Squal*	dB	7	5	3

For TDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-71	-73
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	32	30

Test procedure

Method C is applied.

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 s to allow the UE to detect the loss of cells.

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).

6.1.1.6.5 Test Requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

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

6.1.2 Cell selection and reselection

6.1.2.1 Cell reselection

6.1.2.1.1 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.

6.1.2.1.2 Conformance requirement

1. When camped on a cell, the UE shall regularly search for a better cell according to the cell reselection criteria. If a better cell is found, that cell is selected. The change of cell may imply a change of RAT.

2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.

   2.1 The cell is part of the selected PLMN or of a PLMN considered as equivalent by the UE according to the information provided by the NAS.

   2.2 The cell is not barred.

   2.3 The cell is not part of the list of "forbidden LAs for roaming".

   2.4 The cell selection criteria are fulfilled.

3. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

   3.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.

   3.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

4. Cell Reselection Criteria:

   4.1 The UE shall perform ranking of all cells that fulfil the S criterion.

   4.2 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

4.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

4.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSET$_n$ and PENALTY_TIME$_n$ are only applicable if the usage of HCS is indicated in system information.

5. When cell status "barred" is indicated, the UE shall select another cell according to the following rule:

5.1 If the "Intra-frequency cell re-selection indicator" IE in Cell Access Restriction IE is set to value "allowed", the UE may select another cell on the same frequency if selection/re-selection criteria are fulfilled.

5.2 If the "Intra-frequency cell re-selection indicator" IE is set to "not allowed" the UE shall not re-select a cell on the same frequency as the barred cell. For emergency call, the Intra-frequency cell re-selection indicator IE" shall be ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

References

1. TS 25.304, clause 5.2.1.

2. TS 25.304, clause 4.3.

3. TS 25.304, clause 5.2.5.1.

4. TS 25.304, clause 5.2.6.1.4.

5. TS 25.304, clause 5.3.1.1.

6.1.2.1.3 Test purpose

1. To verify that the UE performs cell reselection on the following occasions:

   1.1 Serving cell becomes barred;

   1.2 S<0 for serving cell.

2. To verify conformance requirement 5.

NOTE: Reselection triggered by the cell becoming a part of a forbidden registration area is tested in clause 9.4.2.3 and clause 9.4.2.4.

6.1.2.1.4 Method of test

Initial conditions

Treselection, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME are not used, so the cell-ranking criterion R equals CPICH_RSCP~~Ec/Io~~ for FDD cells, and P-CCPCH RSCP for TDD cells.

Step a-c (FDD):

Parameter	Unit	Cell 1	Cell 2	Cell 3
Test Channel		1	1	2
CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-13~~-60	~~-15~~-70	~~-17~~-80
~~Qqualmin~~Qrxlevmin	dB~~m~~	~~-20~~-115	~~-20~~-115	~~-20~~-115
~~Squal~~Srxlev*	dB~~m~~	~~7~~55	~~5~~45	~~3~~35
Intra-frequency cell re-selection indicator		Not Allowed	Not Allowed	Not Allowed
CellBarred		0	0	0

Step a-c (TDD):

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-71	-73
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	32	30

Step d-f:

CellBarred		0->1	0	0

Step g-h:

Intra-frequency cell re-selection indicator		Not Allowed -> Allowed	Not Allowed -> Allowed	Not Allowed -> Allowed

Step i (FDD):

~~Qqualmin~~Qrxlevmin	dB~~m~~	~~-20 -> -10~~ -115 -> -50	~~-20~~-115	~~-20~~-115
~~Squal~~Srxlev*	dB~~m~~	~~7 -> -3~~55 -> -10	~~5~~45	~~3~~35

Step i (TDD):

Qrxlevmin		-103 -> -68	-103	-103
Srxlev*		34 -> -6	32	30

Test procedure

Method B is applied.

   a) The SS activates Cell 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 requests from the UE.

   d) The SS sets Cell 1 to be barred.

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

   f) The SS sets "Intra-frequency cell re-selection indicator" to "Allowed".

   g) The SS waits for 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-e) is repeated except that in step d) for FDD cells, ~~Qqualmin is increased to -10 dB~~ Qrxlevmin is increased to -50 dBm, or in step d) for TDD cells, Qrxlevmin is increased to -68, so S will become negative instead of the cell being barred while maintaining the same RF level.

6.1.2.1.5   Test requirements

   1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

   2) In step e), the UE shall respond on Cell 3.

   3) In step g), the UE shall respond on Cell 2.

   4) In step i), the UE shall respond on Cell 2.

6.1.2.2 Cell reselection using Qhyst, Qoffset and Treselection

6.1.2.2.1 Definition

Test to verify that the UE performs the cell reselection correctly if system information parameters Qoffset, Qhyst and Treselection are applied for non-hierarchical cell structures. TEMP_OFFSET and PENALTY_TIME are only applicable when HCS is applied and are tested in clauses 6.1.2.4 and 6.1.2.5.

6.1.2.2.2 Conformance requirement

1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

   1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.

   1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

2. Cell Reselection Criteria:

   2.1 The UE shall perform ranking of all cells that fulfil the S criterion.

   2.2 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

   2.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

   2.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSETn and PENALTY_TIMEn are only applicable if the usage of HCS is indicated in system information.

References

1. TS 25.304, clause 5.2.5.1.

2. TS 25.304, clause 5.2.6.1.4.

6.1.2.2.3 Test purpose

1. To verify that the UE calculates R from Qhyst and Qoffset and that the modification of these parameters on the BCCH triggers the cell reselection evaluation process. TEMP_OFFSET and PENALTY_TIME are not applied.

2. To verify that the UE reselects the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

6.1.2.2.4 Method of test

Initial conditions

For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2
CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-12~~-60	~~-15~~-70
~~Qqualmin~~	~~dB~~	~~-20~~	~~-20~~
~~Squal*~~	~~dB~~	~~8~~	~~5~~
Qhyst~~2~~1$_s$	dB~~m~~	~~10~~20	
R_s*	dB~~m~~	~~-2~~-40	
R_n*	dB~~m~~	~~-15~~-70	

Step d-e:

CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-12 -> -15~~-60 -> -70	~~-15 -> -12~~-70 -> -60
R_s*	dB~~m~~	~~-2 -> -5~~-40 -> -50	
R_n*	dB~~m~~	~~-15 -> -12~~-70 -> -60	

Step f-g:

Qhyst~~21~~$_s$	dB~~m~~	~~10 -> 0~~20 -> 0	
R_s*	dB~~m~~	~~-5 -> -15~~-50 -> -70	
R_n*	dB~~m~~	~~-12~~-60	

Step h-j:

CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-12~~-60	~~-15~~-70
Qoffset~~21~~$_{s,n}$	dB~~m~~	~~10~~20	
R_s*	dB~~m~~	~~-12~~-60	
R_n*	dB~~m~~	~~-25~~-90	

Step k-l:

CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-12 -> -15~~-60 -> -70	~~-15 -> -12~~-70 -> -60
R_s*	dB~~m~~	~~-12 -> -15~~-60 -> -70	
R_n*	dB~~m~~	~~-25 -> -22~~-90 -> -80	

Step m-n:

Qoffset~~21~~$_{s,n}$	dB~~m~~	~~10 -> 0~~20 -> 0	
R_s*	dB~~m~~	~~-15~~-70	
R_n*	dB~~m~~	~~-22 -> -12~~-80 -> -60	

Step o-p:

Treselection$_s$	s	30	

For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2
P-CCPCH RSCP	dBm	-68	-71
Qhyst1$_s$	dB	10	
R_s*	dB	-58	
R_n*	dB	-71	

Step d-e:

P-CCPCH RSCP	dBm	-68 -> -71	-71 -> -68
R_s*	dB	-58 -> -61	
R_n*	dB	-71 -> -68	

Step f-g:

Qhyst1$_s$	dB	10 -> 0	
R_s*	dB	-61 -> -71	
R_n*	dB	-68	

Step h-j:

P-CCPCH RSCP	dBm	-68	-71
Qoffset1$_{s,n}$	dB	10	
R$_s$*	dB	-68	
R$_n$*	dB	-81	

Step k-l:

P-CCPCH RSCP	dBm	-68 -> -71	-71 -> -68
R$_s$*	dB	-68 -> -71	
R$_n$*	dB	-81 -> -78	

Step m-n:

Qoffset1$_{s,n}$	dB	10 -> 0	
R$_s$*	dB	-71	
R$_n$*	dB	-78 -> -68	

Step o-p:

Treselection$_s$	s	30	

Test procedure

Method B is applied.

a) The SS activates Cell 1 and 2 and monitors them 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 requests from the UE.

d) The SS changes the level of Cell 1 and 2 and waits for 10 s (TS 25.133, A.4.2.1.2 for FDD mode and TS 25.123, A.4.2.1.2 for TDD mode).

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

f) The SS resets Qhyst for Cell 1.

g) The SS waits for 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) The UE is switched on.

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

k) The SS changes the level of Cell 1 and 2 and waits for 10 s (TS 25.133, clause A.4.2.1.2 for FDD mode and TS 25.123, clause A.4.2.1.2 for TDD mode).

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

m) The SS resets Qoffset for Cell 1.

n) The SS waits for random access requests from the UE.

o) Step h-n) is repeated except that Treselection is 30 s

6.1.2.2.5 Test Requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

2) In step e), the UE shall keep responding on Cell 1.

3) In step g), the UE shall respond on Cell 2.

4) In step j), the UE shall select a cell to camp on and eventually make a reselection to Cell 1.

5) In step l), the UE shall keep responding on Cell 1.

6) In step n), the UE shall respond on Cell 2.

7) In step o), the UE shall respond as in previous steps except that when reselecting to Cell 2, there shall be no response from the UE on Cell 2 within 28 s of broadcasting Qoffset but the UE shall respond on Cell 2 within 34 s.

NOTE: Minimum time set by Treselection – 2 s tolerance. Maximum time set by Treselection + 1 280 msec. for DRX cycle + 2 s tolerance

6.1.2.3   HCS Cell reselection

6.1.2.3.1   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.

6.1.2.3.2   Conformance requirement

1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

    1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.

    1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

2. Cell Reselection Criteria for hierarchical cells:

    2.1 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.

    2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells that have the highest HCS_PRIO among those cells that fulfil the criterion H >= 0.

    2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

    2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

    2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME.

References

1. TS 25.304, clause 5.2.2.

2. TS 25.304, clause 5.2.6.1.4.

6.1.2.3.3   Test purpose

1. Verify that the UE ignores cells with H<0 for reselection and that H is calculated from Qhcs. The modification of this parameter on the BCCH shall trigger the cell reselection evaluation process.

2. Verify that the UE ranks cells based on both HCS priority and R. Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME and Treselection are not applied so R equals CPICH_ ~~Ec/Io~~RSCP for FDD cells, and P-CCPCH RSCP for TDD cells.

6.1.2.3.4 Method of test

Initial conditions

For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-13~~ -60	~~-15~~ -65	~~-17~~ -70
~~Qqualmin~~	~~dB~~	~~-20~~	~~-20~~	~~-20~~
~~Squal*~~	~~dB~~	~~7~~	~~5~~	~~3~~
HCS priority		6	7	7
$Qhcs_s$	dB~~m~~	~~-24~~ -80	~~-10~~ -50	~~-10~~ -50
H_s*	dB~~m~~	~~11~~ 20	~~-5~~ -15	~~-7~~ -20

Step d-e:

$Qhcs_s$	dB~~m~~	~~-24~~ -80	~~-10~~ -50	~~-10 -> -24~~ -50 -> -80
H_s*	dB~~m~~	~~11~~ 20	~~-5~~ -15	~~-7 -> 7~~ -20 -> 10

Step f-g:

$Qhcs_s$	dB~~m~~	~~-24~~ -80	~~-10 -> -24~~ -50 -> -80	~~-24~~ -80
H_s*	dB~~m~~	~~11~~ 20	~~-5 -> 9~~ -15 -> 15	~~7~~ 10

For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-71	-73
HCS priority		6	7	7
$Qhcs_s$	dB	-30	-10	-10
H_s*	dB	-39	-61	-63

Step d-e:

$Qhcs_s$	dB	-30	-10	-10 -> -30
H_s*	dB	-39	-61	-63 -> -43

Step f-g:

$Qhcs_s$	dB	-30	-10 -> -30	-30
H_s*	dB	-39	-61 -> -41	-43

Test procedure

Method B is applied.

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 requests from the UE.

d) The SS changes Qhcs for Cell 3.

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

f) The SS changes Qhcs for Cell 2.

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

6.1.2.3.5 Test requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

2) In step e), the UE shall respond on Cell 3.

3) In step g), the UE shall respond on Cell 2.

6.1.2.4 HCS Cell reselection using reselection timing parameters for the H criterion

6.1.2.4.1 Definition

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

6.1.2.4.2 Conformance requirement

1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

    1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.

    1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

2. Cell Reselection Criteria for hierarchical cells:

    2.1 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.

    2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells that have the highest HCS_PRIO among those cells that fulfil the criterion $H >= 0$.

    2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

    2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

    2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME.

3. $TEMP\_OFFSET_n$ applies an offset to the H criteria for the duration of $PENALTY\_TIME_n$ after the timer T_n has started for that cell. T_n shall be started from zero when $Q_{meas,n} > Qhcs_n$. TEMP_OFFSET is only applied to the H criteria if the cells have different HCS priorities.

References

1. TS 25.304, clause 5.2.2.

2,3.   TS 25.304, clause 5.2.6.1.4.

6.1.2.4.3 Test purpose

1. Verify that TEMP_OFFSET is applied to the H criterion for a period of PENALTY_TIME and that the timer is started when $Q_{meas,n} > Qhcs_n$ if serving and neighbour cell have different HCS priorities.

6.1.2.4.4 Method of test

Initial conditions

For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec~~/Io~~	dB~~m~~/3.84 MHz	~~-13~~-60	~~-17~~-70	~~-17~~-70
~~Qqualmin~~	~~dB~~	~~-20~~	~~-20~~	~~-20~~
~~Squal*~~	~~dB~~	~~7~~	~~3~~	~~3~~
HCS priority		2	4	7
$Qhcs_s$	dB~~m~~	~~-20~~-80		
$Qhcs_{n=2}$	dB~~m~~	~~-10~~-50		
$Qhcs_{n=3}$	dB~~m~~	~~-10~~-50		
TEMP_OFFSET~~2~~1$_{n=2}$	dB~~m~~	~~10~~30		
TEMP_OFFSET~~2~~1$_{n=3}$	dB~~m~~	~~10~~30		
H_s*	dB~~m~~	~~7~~20		
$H_{n=2}*$	dB~~m~~	~~-7~~-20		
$H_{n=3}*$	dB~~m~~	~~-7~~-20		
PENALTY_TIME$_{n=2}$	sec	40		
PENALTY_TIME$_{n=3}$	sec	60		

Step d-e:

$Qhcs_s$	dB~~m~~	~~-20~~-80		
$Qhcs_{n=2}$	dB~~m~~	~~-10 -> -20~~-50 -> -80		
$Qhcs_{n=3}$	dB~~m~~	~~-10 -> -20~~-50 -> -80		
H_s*	dB~~m~~	~~7~~20		
$H_{n=2}*$	dB~~m~~	~~7 -> 3~~-20 -> 10 (after 40 sec)		
$H_{n=3}*$	dB~~m~~	~~7 -> 3~~-20 -> 10 (after 60 sec)		

For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-73	-73
HCS priority		2	4	7
$Qhcs_s$	dB	-20		
$Qhcs_{n=2}$	dB	-10		
$Qhcs_{n=3}$	dB	-10		
TEMP_OFFSET2$_{n=2}$	dB	10		
TEMP_OFFSET2$_{n=3}$	dB	10		
H_s*	dB	-49		
$H_{n=2}*$	dB	-63		
$H_{n=3}*$	dB	-63		
PENALTY_TIME$_{n=2}$	sec	40		
PENALTY_TIME$_{n=3}$	sec	60		

Step d-e:

$Qhcs_s$	dB	-20		
$Qhcs_{n=2}$	dB	-10 -> -20		
$Qhcs_{n=3}$	dB	-10 -> -20		
H_s*	dB	-49		
$H_{n=2}*$	dB	-63 -> -53 (after 40 sec)		
$H_{n=3}*$	dB	-63 -> -53 (after 60 sec)		

Test procedure

Method B is applied.

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 requests from the UE.

d) The SS changes Qhcs for Cell 2 and 3.

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

6.1.2.4.5 Test requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

2) In step e), there shall be no response from the UE on Cell 2 within 38 s of changing the parameters but the UE shall respond on Cell 2 within 44 s. There shall be no response from the UE on Cell 3 within 58 s of changing the parameters but the UE shall respond on Cell 3 within 64 s.

NOTE: Minimum time set by PENALTY_TIME (cell 2) - 2 s tolerance. Maximum time set by PENALTY_TIME (cell 2) + 1 280 msec. for DRX cycle + 2 s tolerance. Same calculation for Cell 3.

6.1.2.5 HCS Cell reselection using reselection timing parameters for the R criterion

6.1.2.5.1 Definition

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

6.1.2.5.2 Conformance requirement

1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

   1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.

   1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

2. Cell Reselection Criteria for hierarchical cells:

   2.1 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.

   2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells, not considering HCS priority levels, if no cell fulfil the criterion H>=0.

   2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If a FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

   2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

   2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME.

3. TEMP_OFFSET_n applies an offset to the R criteria for the duration of PENALTY_TIME_n after the timer T_n has started for that cell. T_n shall be started from zero when $Q_{meas,n} > Q_{meas,s} + \text{Qoffset2}_{s,n}$. TEMP_OFFSET is only applied to the R criteria if the cells have identical priorities.

References

1. TS 25.304, clause 5.2.2.

2,3. TS 25.304, clause 5.2.6.1.4.

6.1.2.5.3 Test purpose

1. Verify that TEMP_OFFSET is applied to the R criterion for a period of PENALTY_TIME and that the timer is started when $Q_{meas,n} > Q_{meas,s} + Qoffset2_{s,n}$ if serving and neighbour cell have identical HCS priorities.

6.1.2.5.4 Method of test

Initial conditions

For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec/~~Io~~	dBm/3.84 MHz	~~-15~~-60	~~-17~~-70	~~-17~~-70
~~Qqualmin~~	dB	-20	-20	-20
~~Squal*~~	dB	5	3	3
HCS priority		1	1	1
TEMP_OFFSET2$_{n=2}$	dBm	~~10~~20		
TEMP_OFFSET2$_{n=3}$	dBm	~~10~~20		
PENALTY_TIME$_{n=2}$	sec	40		
PENALTY_TIME$_{n=3}$	sec	60		
H$_s$*	dBm	~~-15~~-60		
H$_{n=2}$*	dBm	~~-17~~-70		
H$_{n=3}$*	dBm	~~-17~~-70		
R$_s$*	dBm	~~-15~~-60		
R$_{n=2}$*	dBm	~~-17~~-70		
R$_{n=3}$*	dBm	~~-17~~-70		

Step d-e:

CPICH_Ec/~~Io~~	dBm/3.84 MHz	~~-15 -> -17~~-60 -> -70	~~-17 -> -15~~-70 -> -65	~~-17 -> -13~~-70 -> -60
R$_s$*	dBm	~~-17~~-70		
R$_{n=2}$*	dBm	~~-25 -> -15~~-85 -> -65 (after 40 sec)		
R$_{n=3}$*	dBm	~~-23 -> -13~~-80 -> -60 (after 60 sec)		

For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-73	-73
HCS priority		1	1	1
H$_s$*	dB	-69		
H$_{n=2}$*	dB	-73		
H$_{n=3}$*	dB	-73		
R$_s$*	dB	-69		
R$_{n=2}$*	dB	-73		
R$_{n=3}$*	dB	-73		

Step d-e:

Qoffset1$_{s,n=2}$	dB	0 -> -10		
Qoffset1$_{s,n=3}$	dB	0 -> -10		
TEMP_OFFSET1$_{n=2}$	dB	10		
TEMP_OFFSET1$_{n=3}$	dB	10		
PENALTY_TIME$_{n=2}$	sec	40		
PENALTY_TIME$_{n=3}$	sec	60		
R_s*	dB	-13		
$R_{n=2}$*	dB	-73 -> -63 (after 40 sec)		
$R_{n=3}$*	dB	-73 -> -63 (after 60 sec)		

Test procedure

Method B is applied.

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 requests from the UE.

d) The SS changes the level of Cell 1-3.

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

6.1.2.5.5 Test requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

2) In step e), there shall be no response from the UE on Cell 2 within 38 s of changing the parameters but the UE shall respond on Cell 2 within 50 s. There shall be no response from the UE on Cell 3 within 58 s of changing the parameters but the UE shall respond on Cell 3 within 70 s.

NOTE: Minimum time set by PENALTY_TIME (cell 2) – 2 s tolerance. Maximum time set by PENALTY_TIME (cell 2) + 6.4 s ($T_{evaluateFDD}$ from TS 25.133, table 4.1 for FDD mode and $T_{evaluateTDD}$ from TS 25.123, table 4.1 for TDD mode) + 1 280 msec. for system info scheduling + 2 s tolerance. Same calculation for Cell 3.

6.1.2.6 Emergency calls

6.1.2.6.1 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.

6.1.2.6.2 Conformance requirement

1. Acceptable cell:

An "acceptable cell" is a cell on which the UE may camp to obtain limited service (originate emergency calls). Such a cell shall fulfil the following requirements, which is the minimum set of requirements to initiate an emergency call in a UTRAN network:

1.1 The cell is not barred;

1.2 The cell selection criteria are fulfilled.

2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.

2.1 The cell is part of the selected PLMN or, of a PLMN considered as equivalent by the UE according to the information provided by the NAS.

2.2 The cell is not barred.

2.3 The cell is not part of the list of "forbidden LAs for roaming".

2.4 The cell selection criteria are fulfilled.

3. If the UE is unable to find any suitable cell of selected PLMN the UE shall enter the *Any cell selection* state.

4. Any Cell Selection State: In this state, the UE shall attempt to find an acceptable cell of an any PLMN to camp on, trying all RATs that are supported by the UE and searching first for a high quality cell. The UE, which is not camped on any cell, shall stay in this state until an acceptable cell is found.

5. Camped on Any Cell State: In this state the UE obtains limited service. The UE shall regularly attempt to find a suitable cell of the selected PLMN, trying RATs that are supported by the UE. If a suitable cell is found, this causes an exit to the Camped normally State.

6. In the Camped on Any Cell State, the UE shall perform the cell reselection evaluation process on the following occasions/triggers:

6.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and TS 25.123 for TDD mode.

6.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

References

1. TS 25.304, clause 4.3.

2. TS 25.304, clause 4.3.

3. TS 25.304, clause 5.2.2.1.

4. TS 25.304, clause 5.2.8.

5. TS 25.304, clause 5.2.2.5.

6. TS 25.304, clause 5.2.9.1.

6.1.2.6.3   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 and CellBarred = 0 (acceptable cell) when no suitable cells of the selected PLMN are available.

3. To verify that the UE ranks the acceptable 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.

6.1.2.6.4   Method of test

Initial conditions

In step a-d, Cell 1 and 2 are neither suitable nor acceptable cells. Cell 3 is an acceptable cell but not suitable.

In step e-f, both Cell 1 and 3 are acceptable cells.

Step a-d:

For FDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec/Io	dBm/3.84 MHz	-15-65	-13-60	-17-70
QqualminQrxlevmin	dBm	-20-80	-10-50	-20-80
SqualSrxlev*	dBm	515	-3-10	310
CellBarred		1	0	0
PLMN		forbidden	forbidden	forbidden

For TDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-77	-71
CellBarred		1	0	0
PLMN		forbidden	forbidden	forbidden

Step e-f:

CellBarred		1 -> 0	0	0

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.

Test procedure

Method C is applied.

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

b) The UE is switched on.

c) 50 s 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 30 s an emergency call is initiated on the UE.

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

6.1.2.6.5 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.

6.1.2.7 Emergency calls; Intra-frequency cell "Not allowed"

6.1.2.7.1 Definition

Test to verify that for emergency call and cell status "barred", the Intra-frequency cell re-selection indicator IE is ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

6.1.2.7.2 Conformance requirement

1. When cell status "barred" is indicated:

- The UE is not permitted to select/re-select this cell, not even for emergency calls.

- The UE shall select another cell according to the following rule:

- If the "Intra-frequency cell re-selection indicator" IE is set to "not allowed" the UE shall not re-select a cell on the same frequency as the barred cell. For emergency call, the Intra-frequency cell re-selection indicator IE" shall be ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

References

1. TS 25.304, clause 5.3.1.1.

6.1.2.7.3   Test purpose

To verify that for emergency call and cell status "barred", the Intra-frequency cell re-selection indicator IE is ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

6.1.2.7.4   Method of test

Initial conditions

Cell 1 and 2 are on the same carrier frequency.

Step a-c:

For FDD only:

Parameter	Unit	Cell 1	Cell 2
CPICH_Ec/Io	dBm/3.84 MHz	~~-13~~-60	~~-15~~-70
~~Qqualmin~~	~~dB~~	~~-20~~	~~-20~~
~~Squal*~~	~~dB~~	~~7~~	~~5~~
Intra-frequency cell re-selection indicator		Not allowed	Not allowed
CellBarred		0	0

For TDD only:

Parameter	Unit	Cell 1	Cell 2
P-CCPCH RSCP	dBm	-77	-69
CellBarred	dBm	0	0

Step d-i:

CellBarred		0 -> 1	0

Test procedure

Method C is applied.

a) The SS activates the cells and monitors them for any 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 to see if there is any random access request from the UE.

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

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

h) By MMI, an emergency call is initiated on the UE.

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

6.1.2.6.5 Test requirements

1) In step c), after the UE has responded on Cell 1, it shall nor respond on any other cell within 1 min.

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

3) In step g), there shall be no response from the UE within 2 min. It shall not be possible to originate the call.

4) In step i), the UE shall respond on Cell 2. It shall be possible to originate the emergency call.

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 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, or following recovery from lack of coverage,the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) 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, clause 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 automatic PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm/3.84 MHz]	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-48	-48	1	PLMN 1	GSM
Cell 2	-72	-61	1	PLMN 1	UTRAN
Cell 3	-75	-64	2	PLMN 2	UTRAN
Cell 4	-50	-50	2	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$_{HPLMNwAcT}$	1st	PLMN 1	GSM
	2nd		UTRAN

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$			
EF$_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM

Test procedure

Method B is applied.

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).

2) In step f), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN2 (UTRAN).

6.2.1.2 Selection of RAT for HPLMN; Manual mode

6.2.1.2.1 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.

6.2.1.2.2 Conformance requirement

1. To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM together with PLMN codes. This version of the specification does not support multiple HLPMN codes and the "HPLMN Selector with Access Technology" data field is only used by the MS to get the HPLMN access technologies. The HPLMN code is the PLMN code included in the IMSI.

2. For 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 (i.e. the PLMN/access technology combinations are listed in priority order, if an entry includes more than one access technology then no priority is defined for the preferred access technology and the priority is an implementation issue).

3. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list 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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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, clause 4.4.3.

2. TS 23.122, clause 4.4.3.1.1 (f).

3. TS 23.122, clause 4.4.3.1.2.

NOTE: TS 31.102 defines the USIM fields.

6.2.1.2.3 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.

6.2.1.2.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 2	UTRAN
Cell 2	-48	-48	1	PLMN 2	GSM
Cell 3	-75	-64	2	PLMN 3	UTRAN
Cell 4	-50	-50	2	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$_{LOCI}$		PLMN 1	
EF$_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$		PLMN 1	
EF$_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		

Test procedure

Method B is applied.

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.

6.2.1.2.5 Test Requirements

1) In step c), the list shall be presented. It shall contain as highest priority 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).

3) In step f), the list shall be presented. It shall contain as highest priority PLMN2 (GSM).

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).

5) In step j), the list shall be presented. It shall contain as highest priority PLMN2 (GSM).

6) In step k), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM). (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

6.2.1.3 Selection of RAT for UPLMN; Manual mode

6.2.1.3.1 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.

6.2.1.3.2 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 PLMNs in the "forbidden PLMNs" list 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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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, clause 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 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.

6.2.1.3.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 3	UTRAN
Cell 2	-48	-48	1	PLMN 3	GSM
Cell 3	-75	-64	2	PLMN 4	UTRAN
Cell 4	-50	-50	2	PLMN 4	GSM
Cell 5	-78	-67	3	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$_{LOCI}$		PLMN 1	
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

Method B is applied.

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.

6.2.1.3.5 Test Requirements

1) In step c), the list shall be presented. It shall contain in priority PLMN3 (UTRAN), PLMN4 (GSM), other PLMNs.

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).

3) In step f), the list shall be presented. It shall contain in priority PLMN4 (GSM), PLMN5 (UTRAN), other PLMNs.

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).

5) In step i), the list shall be presented. It shall contain as highest priority PLMN5 (UTRAN).

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).

6.2.1.4 Selection of RAT for OPLMN; Manual mode

6.2.1.4.1 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.

6.2.1.4.2 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 PLMNs in the "forbidden PLMNs" list 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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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, clause 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 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".

6.2.1.4.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 5	UTRAN
Cell 2	-48	-48	1	PLMN 5	GSM
Cell 3	-75	-64	2	PLMN 6	UTRAN
Cell 4	-50	-50	2	PLMN 6	GSM
Cell 5	-78	-67	3	PLMN 7	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}		PLMN 1	
$EF_{HPLMNwAcT}$	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

Method B is applied.

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.

6.2.1.4.5 Test Requirements

1) In step c), the list shall be presented. It shall contain in priority PLMN5 (UTRAN), PLMN6 (GSM), other PLMNs.

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).

3) In step f), the list shall be presented. It shall contain as highest priority PLMN6 (GSM) followed by PLMN5 (GSM), PLMN6 (UTRAN) and PLMN7 (UTRAN) in random order.

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).

5) In step i), the list shall be presented. It shall contain PLMN5 (GSM), PLMN6 (UTRAN) and PLMN7 (UTRAN) in random order.

6) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN7 (UTRAN).

6.2.1.5 Selection of "Other PLMN / access technology combinations"; Manual mode

6.2.1.5.1 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".

6.2.1.5.2 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 PLMNs in the "forbidden PLMNs" list 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.

In 1.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

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 LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" 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.

2. UTRA case: The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:

   - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.

   - For a TDD cell, the measured P-CCPCH RSCP value shall be greater than or equal to –84 dBm.

   Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

3. GSM case: A PLMN shall be understood to be received with high quality signal if the signal level is above -85 dBm.

References

1. TS 23.122, clause 4.4.3.1.2.

2. TS 25.304, clause 5.1.2.2.

3. TS 03.22, clause 4.4.3.

NOTE: TS 31.102 defines the USIM fields.

6.2.1.5.3 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.

6.2.1.5.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~

Cell	CPICH_~~RSCP~~Ec /RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	High Quality signal	Test Channel	PLMN	Radio Access Technology
Cell 1	-80	-69	Yes	1	PLMN 7	UTRAN
Cell 2	-65	-65	Yes	1	PLMN 8	GSM
Cell 3	-98	-87	No	2	PLMN 9	UTRAN
Cell 4	-101	-90	No	2	PLMN 10	UTRAN
Cell 5	-88	-88	No	3	PLMN 11	GSM
Cell 6	-91	-91	No	3	PLMN 12	GSM

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

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$		PLMN 1	
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

Method B is applied.

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.

6.2.1.5.5 Test Requirements

In all steps, the PLMN priority list shall be as follows: PLMN7, PLMN8 in random order followed by the other PLMNs. PLMN9 shall always come before PLMN10 and PLMN11 shall always come before PLMN12.

1) In step c), the list shall be presented and contain PLMN7, 8, 9, 10, 11, 12.

2) In step d), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN11.

3) In step f), the list shall be presented and contain PLMN7, 8, 9, 10, 12.

4) In step g), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN8.

5) In step i), the list shall be presented and contain PLMN7, 9, 10, 12.

6) In step j), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN10.

7) In step l), the list shall be presented and contain PLMN7, 9, 12. 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 and contain PLMN9, 12.

10) In step o), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN9.

11) In step q), the list shall be presented 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 that no network is available

6.2.1.6 Selection of RAT for HPLMN; Automatic mode

6.2.1.6.1 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.

6.2.1.6.2 Conformance requirement

1. To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM together with PLMN codes. This version of the specification does not support multiple HLPMN codes and the "HPLMN Selector with Access Technology" data field is only used by the MS to get the HPLMN access technologies. The HPLMN code is the PLMN code included in the IMSI.

2. For 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 (i.e. the PLMN/access technology combinations are listed in priority order, if an entry includes more than one access technology then no priority is defined for the preferred access technology and the priority is an implementation issue).

3. Automatic Network Selection Mode Procedure:

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

   3.1 HPLMN (if not previously selected);

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

3.3 Each PLMN 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.

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 the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, clause 4.4.3.

2. TS 23.122, clause 4.4.3.1.1 (f).

3. TS 23.122, clause 4.4.3.1.1.

NOTE: TS 31.102 defines the USIM fields.

6.2.1.6.3 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.

6.2.1.6.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 2	UTRAN
Cell 2	-48	-48	1	PLMN 2	GSM
Cell 3	-75	-64	2	PLMN 3	UTRAN
Cell 4	-50	-50	2	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$_{LOCI}$		PLMN 1	
EF$_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$		PLMN 1	
EF$_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		

Test procedure

Method B is applied.

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.

6.2.1.6.5 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).

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).

3) In step h), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM). (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

6.2.1.7 Selection of RAT for UPLMN; Automatic mode

6.2.1.7.1 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.

6.2.1.7.2 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 the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, clause 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 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.

6.2.1.7.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_~~RSCP~~Ec / RF signal level [dBm~~/3.84 MHz~~] (FDD)	P-CCPCH / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 3	UTRAN
Cell 2	-48	-48	1	PLMN 3	GSM
Cell 3	-75	-64	2	PLMN 4	UTRAN
Cell 4	-50	-50	2	PLMN 4	GSM
Cell 5	-78	-67	3	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$_{LOCI}$		PLMN 1	
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

Method B is applied.

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.

6.2.1.7.5 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).

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).

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).

6.2.1.8 Selection of RAT for OPLMN; Automatic mode

6.2.1.8.1 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.

6.2.1.8.2 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 the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, clause 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 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".

6.2.1.8.4   Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

~~Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).~~ Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ ~~RSCP~~Ec / RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 5	UTRAN
Cell 2	-48	-48	1	PLMN 5	GSM
Cell 3	-75	-64	2	PLMN 6	UTRAN
Cell 4	-50	-50	2	PLMN 6	GSM
Cell 5	-78	-67	3	PLMN 7	UTRAN

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

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$		PLMN 1	
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

Method B is applied.

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 $EF_{OPLMNwAcT}$). The displayed PLMN shall be PLMN5 (UTRAN).

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).

3) In step g), the response from the UE shall be on either Cell 2, 3 or 5 (other PLMN/access technology combination) with associated PLMN5 (GSM), PLMN6 (UTRAN) or PLMN7 (UTRAN) shown.

6.2.1.9 Selection of "Other PLMN / access technology combinations"; Automatic mode

6.2.1.9.1 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".

6.2.1.9.2 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.

   In 1.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

   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 the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

2. UTRA case: The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:

   - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.

   - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to –84 dBm.

   Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

3. GSM case: A PLMN shall be understood to be received with high quality signal if the signal level is above -85 dBm.

References

1. TS 23.122, clause 4.4.3.1.1.

2. TS 25.304, clause 5.1.2.2.

3. TS 03.22, clause 4.4.3.

NOTE: TS 31.102 defines the USIM fields.

6.2.1.9.3 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.

6.2.1.9.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).

Cell	CPICH_RSCPEc /RF signal level [dBm/3.84 MHz] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	"High Quality signal"	Test Channel	PLMN	Radio Access Technology
Cell 1	-80	-69	Yes	1	PLMN 7	UTRAN
Cell 2	-65	-65	Yes	1	PLMN 8	GSM
Cell 3	-98	-87	No	2	PLMN 9	UTRAN
Cell 4	-101	-90	No	2	PLMN 10	UTRAN
Cell 5	-88	-88	No	3	PLMN 11	GSM
Cell 6	-91	-91	No	3	PLMN 12	GSM

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

USIM field	Priority	PLMN	Access Technology Identifier
EF$_{LOCI}$		PLMN 1	
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

Method B is applied.

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) The cell on which a response was received, is switched off.

e) Step c-d) is repeated until the UE informs that no network is available.

6.2.1.9.5 Test Requirements

1) In step c), the displayed PLMN is noted.

2) When the test procedure has finished, the noted PLMNs shall have appeared in the following order: PLMN7, PLMN8 in random order followed by the other PLMNs. PLMN9 shall come before PLMN10 and PLMN11 shall come before PLMN12.

6.2.2 Cell selection and reselection

6.2.2.1 Cell reselection if cell becomes barred or S<0; UTRAN to GSM

6.2.2.1.1 Definition

Test to verify that if both a GSM and UTRAN network is available, the UE performs cell reselection from UTRAN to GSM if the UTRAN cell becomes barred or S falls below zero.

6.2.2.1.2 Conformance requirement

1. When camped on a cell, the UE shall regularly search for a better cell according to the cell reselection criteria. If a better cell is found, that cell is selected. The change of cell may imply a change of RAT.

2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.

2.1 The cell is part of the selected PLMN or, of a PLMN considered as equivalent by the UE according to the information provided by the NAS.

2.2 The cell is not barred.

2.3 The cell is not part of the list of "forbidden LAs for roaming".

2.4 The cell selection criteria are fulfilled.

3. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:

    3.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD and TS 25.123 for TDD.

    3.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

4. Cell Reselection Criteria:

    4.1 The UE shall perform ranking of all cells that fulfil the S criterion.

    4.2 The cells shall be ranked according to the R criteria specified above, deriving Qmeas,n and Qmeas,s and calculating the R values using CPICH RSCP, P-CCPCH RSCP and the averaged received signal level as specified in TS 25.133 and TS 25.123 for FDD, TDD and GSM cells, respectively.The best ranked cell is the cell with the highest R value. If a TDD or GSM cell is ranked as the best cell, then the UE shall perform cell re-selection to that TDD or GSM cell.

    4.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

    4.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSET and PENALTY_TIME are only applicable if the usage of HCS is indicated in system information.

References

1. TS 25.304, clause 5.2.1.

2. TS 25.304, clause 4.3.

3. TS 25.304, clause 5.2.5.1.

4. TS 25.304, clause 5.2.6.1.4.

6.2.2.1.3   Test purpose

1. To verify that the UE performs reselection from UTRAN to GSM on the following occasions:

    1.1 Serving cell becomes barred.

    1.2 S<0 for serving cell.

6.2.2.1.4   Method of test

Initial conditions

The USIM does not contain any preferred RAT.

Step a-c:

Parameter	Unit	Cell 1 (UTRAN)
Test Channel		1
CPICH_Ec/Io (FDD)	dB	-11
CPICH RSCPEc (FDD)	dBm	-74-60
P-CCPCH RSCP (TDD)	dBm	-63
Qqualmin (FDD)	dB	-20
Qrxlevmin	dBm	-100
Squal* (FDD)	dB	9
Srxlev*	dBm	2640
CellBarred		0

Parameter	Unit	Cell 2 (GSM)	Cell 3 (GSM)
Test Channel		1	2
RF Signal Level	dBm	-80	-85
RXLEV_ACCESS _MIN	dBm	-100	-100
C1*	dBm	20	15
FDD_Qmin	dB	-20	-20
FDD_Qoffset	dBm	0	0

Step d-f:

Parameter	Unit	Cell 1 (UTRAN)
CellBarred		0 -> 1

Step g:

Parameter	Unit	Cell 1 (UTRAN)
~~Qqualmin~~Qrxlevmin	dB	~~-20 -> -5~~-100 -> -40
~~Squal~~Srxlev*	dB	~~9 -> -6~~40 -> -20
~~Qrxlevmin~~	~~dBm~~	~~[TBD]~~

Test procedure

Method B is applied.

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~~Qrxlevmin is increased, so S will become negative instead of being barred. Step g does not apply to TDD cells.

6.2.2.1.5 Test Requirements

1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

2) In step e), the UE shall respond on Cell 2.

3) In step g), the UE shall respond on Cell 2 after ~~Qualmin~~ Qrxlevmin is increased ~~to -5dB~~. Step g does not apply to the testing of TDD cells.

6.2.2.2 Cell reselection if cell becomes barred or C1<0; GSM to UTRAN

6.2.2.2.1 Definition

Test to verify that if both a GSM and UTRAN network is available, the UE performs cell reselection from GSM to UTRAN if the GSM cell becomes barred or the path loss criterion C1 falls below zero for a period of 5 s.

6.2.2.2.2 Conformance requirement

1. At least every 5 s the MS shall calculate the value of C1 and C2 for the serving cell and re-calculate C1 and C2 values for non serving cells (if necessary). The MS shall then check whether:

    1.1 The path loss criterion (C1) for current serving cell falls below zero for a period of 5 s. This indicates that the path loss to the cell has become too high.

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

    2.1 The path loss criterion parameter C1 (see TS 03.22, clause 3.6) indicates that the path loss to the cell has become too high;

    2.2 The cell camped on (current serving cell) has become barred.

References

1. TS 05.08, clause 6.6.2.

2. TS 03.22, clause 4.5.

6.2.2.2.3 Test purpose

1. To verify that the UE performs reselection from GSM to UTRAN on the following occasions:

    1.1 Serving cell becomes barred.

    1.2 The path loss criterion C1 for serving cell falls below zero for a period of 5 s.

6.2.2.2.4 Method of test

Initial conditions

The USIM does not contain any preferred RAT.Step a-c:

Parameter	Unit	Cell 1 (GSM)
Test Channel		1
RF Signal Level	dBm	-50
RXLEV_ACCESS_ MIN	dBm	-70
MS_TXPWR_MAX_ CCH	dBm	Max. output power of UE
FDD_Qmin	dB	-20
FDD_Qoffset	dBm	0
CellBarred		0
C1*	dBm	20

Parameter	Unit	Cell 2 (UTRAN)	Cell 3 (UTRAN)
P-CCPCH_RSCP (TDD)	dBm	-65	-67
~~CPICH_Ec/Io (FDD)~~	~~dB~~	~~-13~~	~~-15~~
CPICH_~~RSCP~~Ec (FDD)	dBm/3.8 4 MHz	~~-76~~-60	~~-78~~-70
~~Qqualmin (FDD)~~	~~dB~~	~~-20~~	~~-20~~
Qrxlevmin	dBm	-100	-100
~~Squal* (FDD)~~	~~dB~~	~~7~~	~~5~~
Srxlev*	dBm	~~24~~40	~~22~~30

Step d-e:

Parameter	Unit	Cell 1 (GSM)
CellBarred		0 -> 1

Step f-g:

Parameter	Unit	Cell 1 (GSM)
RF Signal Level	dBm	-50 -> -80 (4sec) -> -50
C1*	dBm	20 -> -10 (4sec) -> 20

Step h:

Parameter	Unit	Cell 1 (GSM)
RF Signal Level	dBm	-50 -> -80
C1*	dBm	20 -> -10

Test procedure

Method B is applied.

 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), the SS reduces signal level on Cell 1 to –80 dBm for 4 s and then raises the level back to –50 dBm (C1 becomes –10 dBm during this period).

 h) The SS reduces signal level on Cell 1 to –80 dBm.

6.2.2.2.5 Test Requirements

 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

 2) In step e), the UE shall respond on Cell 2.

 3) In step g), there shall be no access on Cell 2 within 30 s, after having reduced the signal level on Cell 1.

 4) In step h), the UE shall respond 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 3G Cell Reselection list (see TS 04.18) includes UTRAN frequencies, the MS shall, at least every 5 s update the value RLA_C for the serving cell and each of the at least 6 strongest non-serving GSM cells.

   1.1 The MS 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 s 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 s, XXX_Qoffset is increased by 5 dB.

   1.3 Cell reselection to UTRAN shall not occur within 5 s after the MS 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 RSCP value.

2. The MS shall be able to identify and select a new best UTRAN cell on a frequency, which is part of the 3G Cell Reselection list, within 30 s after it has been activated under the condition that there is only one UTRAN frequency in the list and under good radio conditions.

   The allowed time is increased by 30 s for each additional UTRAN frequency in the 3G Cell Reselection 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 TS 25.215 and TS 25.101 for FDD mode, in TS 25.225 and TS 25.102 for TDD mode, clause 3.2 and TS 05.08, clause 6.1.

References

1. TS 05.08, clause 6.6.5.

2. TS 05.08, clause 6.6.4.

6.2.2.3.3 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 s

   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

The USIM does not contain any preferred RAT.

Step a-c:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
Test Channel		1	2
RF Signal Level	dBm	-70	-85
RXLEV_ACCESS_MIN	dBm	-100	-100
MS_TXPWR_MAX_CCH	dBm	Max. output power of UE	Max. output power of UE
FDD_Qmin	dBm	-20	-20
FDD_Qoffset	dBm	5	5

Parameter	Unit	Cell 3 (UTRAN)
Test Channel		1
~~CPICH_Ec/Io (FDD)~~	~~dB~~	~~-11~~
CPICH_RSCP (FDD)	dBm	-74
P-CCPCH_RSCP (TDD)	dBm	-63
~~Qqualmin (FDD)~~	~~dB~~	~~-20~~
Qrxlevmin	dBm	-100
~~Squal* (FDD)~~	~~dB~~	~~9~~
Srxlev*	dBm	26

Step d-g:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-70 -> -82 (4 s) -> -70	OFF

Step h-j:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-82 -> -70	OFF

Step k-m:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-82 -> -70 -> -82	OFF

Test procedure

 NOTE: Step a-c): Test purpose 1.3. Step d-g): test purpose 1.1. Step h-k): test purpose 1.2.

Method A is applied.

 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 s, the SS starts paging continuously on cells 1 and 3 for 20 s. The SS monitors cells 1 and 3 for random access requests from the UE.

 d) Cell 2 is switched off. The SS stops paging on the cells and waits for 20 s. (The UE should revert to Cell 1 due to cell reselection).

e) The SS starts paging continuously on Cell 3.

f) The SS decreases the transmit level of Cell 1 to –82 dBm for a period of 4 s (RSCP will then exceed RXLEV by more than XXX_Qoffset) and then changes the level back to –70 dBm.

g) The SS waits to see if there is any random access requests from the UE on Cell 3.

h) The SS stops paging on all cells and sets the transmit level of Cell 1 to –82 dBm.

i) The SS waits 20 s and then starts paging continuously on Cell 1. (The UE should revert to Cell 3 due to cell reselection).

j) The SS increases the transmit level of Cell 1 to –70 dBm and waits for the UE to access on Cell 1. The SS records the time t from the increase in the level of Cell 1 to the first response from the UE.

k) The SS stops paging on all cells and sets the transmit level of Cell 1 back to –82 dBm.

l) The SS waits 20 s (The UE should revert to Cell 3 due to cell reselection).

m) The SS increases the transmit level of Cell 1 to –70 dBm. After t+2 s (i.e. 2 s after reselection to Cell 1), the SS starts paging continuously on Cell 3, changes the level of Cell 1 back to –82 dBm and waits to see if there is any random access request on Cell 3. (Within 15 sec after reselection to GSM, the level of Cell 1 is -82 + 10 dBm=-72 dBm. After the 15 s period, the level of Cell 1 is –82 + 5 dBm=-77 dBm. The level of Cell 3 is –74 dBm, thus leading to reselection to Cell 3 after 15 s).

6.2.2.3.5 Test Requirements

1) In step c), after the UE has reselected Cell 1 from Cell 3 as indicated by random access requests, any random access requests on Cell 3 shall not occur within 4,5 s of the last random access request on Cell 1.

2) In step g), there shall be no access on Cell 3 within 34 s of decreasing the level of Cell 1.

3) In step j), the UE shall respond on Cell 1.

4) In step m), there shall be no response on Cell 3 within 11 s after the level of Cell 1 is changed back to -82 dBm.

NOTE: The 11 s is derived from (t+15) s minimum cell reselection timer minus (t+2) s from the start of step m) up to the decrease of the level of Cell 1. A further 2 s are subtracted to cover for any uncertainty introduced by the random access process occurring after step g).