3GPP TSG RAN Meeting #28 **RP-050271**

Quebec, Canada, 1 - 3 June 2005

Title **CRs to 34.123-1 for approval Batch 1**

Source **3GPP TSG RAN WG5 (Testing)**

Agenda Item **7.6.5**

WG Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R5-050636	34.123-1	1139	-	F	Rel-5	5.11.1	Correction to Package 2 IR_U test case 6.2.2.1	TEI
R5-050748	34.123-1	1140	-	F	Rel-5	5.11.1	CR to 34.123-1: Addition of test frequencies for Band V and VI for idle mode testing	TEI
R5-050791	34.123-1	1141	-	F	Rel-5	5.11.1	Correction to GCF WI-10 Idle Mode Test Cases 6.1.1.7 and 6.1.2.8	TEI
R5-050807	34.123-1	1142	-	F	Rel-5	5.11.1	FDD_Qmin values in cell reselection test cases 6.2.2.2 and 6.2.2.3	TEI
R5-050966	34.123-1	1143	-	F	Rel-5	5.11.1	CR to 34.123-1 Rel-5; New cell reselection test case on HCS inter-frequency cell reselection	TEI
R5-050504	34.123-1	1144	-	F	Rel-5	5.11.1	Correction to Package 2 RRC test case 8.1.10.1	TEI
R5-050523	34.123-1	1145	-	F	Rel-5	5.11.1	Correction to RRC test case 8.1.1.9 (GCF Work Item 12)	TEI
R5-050545	34.123-1	1146	-	F	Rel-5	5.11.1	Correcting initial conditions of Inter-RAT test cases 8.1.2.12 and 8.1.2.13	TEI
R5-050607	34.123-1	1147	-	F	Rel-5	5.11.1	Corrections to P4 RRC test case 8.1.3.9	TEI
R5-050609	34.123-1	1148	-	F	Rel-5	5.11.1	Correction to MIB, PLMN and Cell Value Tag Value Definition to 8.1	TEI
R5-050914	34.123-1	1149	-	B	Rel-5	5.11.1	Addition of new Rel-5 RRC test cases to 34.123-1 for RRC Connection establishment using Default Radio Configurations	TEI
R5-050915	34.123-1	1150	-	F	Rel-5	5.11.1	Correction to RRC test case 8.1.1.10 (GCF Work Item 12)	TEI
R5-050555	34.123-1	1151	-	F	Rel-5	5.11.1	Correction to RRC Package 2	TEI

WG Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
							testcase 8.2.2.9	
R5-050623	34.123-1	1152	-	F	Rel-5	5.11.1	CR to 34.123-1 Rel-5; Correction to SRNS relocation test case 8.2.2.43	TEI
R5-050637	34.123-1	1153	-	F	Rel-5	5.11.1	Correction to P4 RRC test case 8.2.6.38	TEI
R5-050766	34.123-1	1154	-	F	Rel-5	5.11.1	Correction to Package 4 RRC test case 8.2.6.12	TEI
R5-050789	34.123-1	1155	-	F	Rel-5	5.11.1	Correction to GCF WI-10 RRC Test Cases 8.2.4.10	TEI
R5-050928	34.123-1	1156	-	F	Rel-5	5.11.1	Removal of TGPL2 from section 8.2	TEI
R5-050653	34.123-1	1157	-	D	Rel-5	5.11.1	Correction of table number in Test 8.2.3.24	TEI
R5-050505	34.123-1	1158	-	F	Rel-5	5.11.1	Correction to Package 2 RRC test case 8.3.1.21	TEI

3GPP TSG RAN WG5 #27
Bath, England, 25 - 29 April, 2005

Tdoc ⌘ R5-050636

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1139** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to Package 2 IR_U test case 6.2.2.1
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	1. The value of Srxlev specified in the table for step a-c is incorrect 2. Value of Qrxlevmin is not as per TTCN
Summary of change:	⌘	1. Qrxlevmin is changed to –79 from –80 2. Accordingly Srxlev is changed from 41 to 19 in step a-c 3. In step g, Srxlev is changed from 40-> –19 to 19-> –11
Consequences if not approved:	⌘	Prose will be incorrect

Clauses affected:	⌘	6.2.2.1.4

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
		X		Test specifications	
			X	O&M Specifications	

Other comments:	⌘	No changes to TTCN required

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

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, 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 offset $Qoffset1_{s,n}$ is used for $Qoffset_{s,n}$ to calculate R_n, the hysteresis $Qhyst1_s$ is used for $Qhyst_s$ to calculate R_s.

   If the usage of HCS is indicated in system information, $TEMP\_OFFSET1_n$ is used for $TEMP\_OFFSET_n$ to calculate TO_n. If it is indicated in system information that HCS is not used, $TEMP\_OFFSET_n$ is not applied when calculating R_n. 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 the following conditions are met:

   - the new cell is better ranked than the serving cell during a time interval Treselection.
   - more than 1 second has elapsed since the UE camped on the current serving 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.

6.2.2.1.3 Test purpose

1. To verify that the UE performs cell 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

UE is idle updated on cell 1.

All cells belong to the same PLMN.

The Inter-RAT Cell Info List of Cell 1 (UTRAN) refers to Cell 9 (GSM) and Cell 10 (GSM).

The 3G Neighbour Cell Description of Cell 9 (GSM) and Cell 10 (GSM) refers to Cell 1 (UTRAN)

Step a-c:

Parameter	Unit	Cell 1 (UTRAN)
Test Channel		1
CPICH_Ec (FDD)	dBm / 3.84 MHz	-60
P-CCPCH_RSCP (TDD)	dBm	-60
Qrxlevmin	dBm	~~-80~~79
Srxlev*	dBm	~~41~~19
CellBarred		Not barred
S-search RAT	dB	+20

Parameter	Unit	Cell 9 (GSM)	Cell 10 (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		Not barred -> Barred
Tbarred	s	80

Step g:

Parameter	Unit	Cell 1 (UTRAN)
CPICH_Ec (FDD)	dBm/ 3.84 MHz	-90
P-CCPCH_RSCP (TDD)	dBm	-90
Srxlev*	dB	~~40 -> 19~~19->-11

Test procedure

Method B is applied.

a) The SS activates cells 9, and 10. The SS monitors cells 9 and 10 for random access requests from the UE.

b) Void

c) Void

d) The SS sets Cell 1 to be barred. The SS notifies UE of the BCCH modification

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

f) The UE is switched off. The SS sets Cell 1 to be not barred

g) Step a-e) is repeated except that in step d), the signal level is reduced, so S will become negative instead of being barred.

6.2.2.1.5 Test Requirements

1) In step a), 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 9.

3) In step g), the UE shall respond on Cell 9 after the signal level is reduced.

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Bath, UK, 25th – 29th April 2005

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CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1140** ⌘**rev** **-** ⌘ Current version: **5.11.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1: Addition of test frequencies for Band V and VI for idle mode testing
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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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)
Rel-6 (Release 6)

Reason for change:	⌘	For Band V and VI for idle mode testing no test frequencies are defined.
Summary of change:	⌘	Addition of test frequencies for Band V and VI idle mode testing. Added Note stating that Test cases which use more than the currently defined test channels in Table 6.3A can not be executed and are not applicable for Bands V and VI.
Consequences if not approved:	⌘	Test frequencies for Band V and VI for idle mode testing are not defined.

Clauses affected:	⌘	6

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	Appliable for terminals supporting Band V or Band VI. in Rel-5 and later.

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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 first modified section>

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;
- default cell numbering as defined in TS 34.108 clause 6.1 have been used in the cell selection and re-selection test cases;
- 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.

In case a test specifies that UE shall read System Information on BCCH while camped on a UTRAN cell, SS shall notify UE on the BCCH modification by sending a PAGING TYPE 1 message to UE. This message shall contain IE BCCH Modification Info with the following settings:

Information Element	Value/remark
BCCH modification info	
MIB Value Tag	Set to the same value as the value tag of the MIB after the BCCH modification
BCCH Modification time	Not present

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	Set to allowed if IE Cell Barred is set to barred; otherwise this IE Not Present
Cell_selection_and_reselection_quality_measure	CPICH RSCP (FDD)
Qqualmin (FDD only)	-24 dB
Qrxlevmin (FDD)	-115 dBm
Qrxlevmin (TDD)	-103 dBm
DRX cycle length	1,28 s

For a UE camping in a FDD cell, CPICH_Ec/Io and SCH_Ec/Io shall fulfill requirements in TS 25.133, clause 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 $\geq$ -20 dB and SCH_Ec/Io $\geq$ -20 dB.

For a UE camping in a TDD cell, the UE shall be able to identify a new detectable cell belonging to the monitored set within $T_{identify\ intra}$ when fulfill requirements in TS 25.123, clause 8.1.2.2. for TDD 3.84 Mcps option and 8.1A.2.2 for TDD 1.28 Mcps option.

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 (GSM) or System Information Block Type 1 broadcast on the BCH (UMTS)

PLMN	MCC1	MCC2	MCC3	MNC1	MNC2	MNC3	LAC
1	0	0	1	0	1	Not present	x
2	0	0	2	1	1	Not present	x
3	0	0	3	2	1	Not present	x
4	0	0	4	3	1	Not present	x
5	0	0	5	4	1	Not present	x
6	0	0	6	5	1	Not present	x
7	0	0	7	6	1	Not present	x
8	0	0	8	7	1	Not present	x
9	0	0	9	0	2	Not present	x
10	0	1	0	1	2	Not present	x
11	0	1	1	2	2	Not present	x
12	0	1	2	3	2	Not present	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, 6.4a 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 are given in table 6.5 for GSM cells, in table 6.3 for UTRAN FDD cells, in table 6.4 for UTRAN TDD cells 3.84 Mcps option and in table 6.4a for UTRAN TDD cells 1.28 Mcps option. If no channel is explicitly specified, the default value is Test Channel 1.

Table 6.3: UTRA (FDD) test frequencies

	Band I		Band II		Band III	
Test Channel	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN
1	-60	9 613	-60	9 263	-60	8 563
2	-65	9 663	-65	9 313	-65	8 613
3	-70	9 713	-70	9 363	-70	8 663
4	-75	9 763	-75	9 413	-75	8 713
5	-80	9 813	-80	9 463	-80	8 763
6	-85	9 863	-85	9 513	-85	8 813

Table 6.3A: UTRA (FDD) test frequencies additional bands

	Band IV		Band V		Band VI	
Test Channel	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN	CPICH_Ec dBm / 3.84 MHz	Uplink UARFCN
1	TBD	TBD	-60	4 133	-60	4 163
2	TBD	TBD	-65	4 158	-65	4 188
3	TBD	TBD	-70	4 183	Void	Void
4	TBD	TBD	-75	4 208	Void	Void
5	TBD	TBD	-80	4 233	Void	Void
6	TBD	TBD	Void	Void	Void	Void

Note: Test cases which use more than the currently defined test channels in Table 6.3A can not be executed and are not applicable for Bands V and VI.

References: TS 34.108, clause 5.1.1 and TS 34.121, clause 4.

Table 6.4: UTRA TDD test frequencies (3.84 Mcps option)

	Band a		Band b		Band c	
Test Channel	P-CCPCH_ RSCP [dBm]	UARFCN	P-CCPCH_ RSCP [dBm]	UARFCN	P-CCPCH_ RSCP [dBm]	UARFCN
1	-54	9 513	-54	9 263	-54	9563
2	-59	9 550	-59	9 400	-59	9577
3	-64	9 587	-64	9 537	-64	9591
4	-69	10 063	-69	9 663	-69	9605
5	-74	10 087	-74	9 800	-74	9619
6	-79	10 112	-79	9 937	-79	9637

Table 6.4a: UTRA TDD test frequencies (1.28 Mcps option)

	Band a		Band b		Band c	
Test Channel	P-CCPCH_ RSCP [dBm]	UARFCN	P-CCPCH_ RSCP [dBm]	UARFCN	P-CCPCH_ RSCP [dBm]	UARFCN
1	-54	9 505	-54	9 255	-54	9555
2	-59	9 550	-59	9 400	-59	9573
3	-64	9 595	-64	9 545	-64	9591
4	-69	10 055	-69	9 655	-69	9608
5	-74	10 088	-74	9 800	-74	9626
6	-79	10 120	-79	9 945	-79	9645

References: TS 34.108, clause 5.1.2 and TS 34.122, clause 4.

Table 6.5: GSM/DCS test frequencies and levels

	GSM 900		DCS 1 800	
Test Channel	level dBµVemf( ) / dBm	BCCH ARFCN	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		

	GSM 450		DCS 480	
Test Channel	level dBµVemf( ) / dBm	BCCH ARFCN	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

	Multiband 900/1800		PCS 1900	
Test Channel	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		

	Multiband 450/900		Multiband 480/900	
Test Channel	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

	Multiband 450/1800		Multiband 480/1800	
Test Channel	**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).

3GPP RAN WG5 Meeting #27
Bath, England, 25-29 April, 2005

Tdoc ⌘R5-050791

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1141** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to GCF WI-10 Idle Mode Test Cases 6.1.1.7 and 6.1.2.8
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	10/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	To expand the registration procedure to allow for Routing Area Update and GMM Attach to cater for UEs that support CS and PS domain or PS domain only.
Summary of change:	⌘	Added alternatives to include Routing Area Update and GMM Combined Attach procedure.
Consequences if not approved:	⌘	The prose will be incorrect.

Clauses affected:	⌘	6.1.1.7.4, ~~and~~ 6.1.1.7.5, 6.1.2.8.4 and 6.1.2.8.5

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	This change aligns the prose with the TTCN, hence no change to TTCN required.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

6.1.1.7 Cell reselection of ePLMN in manual mode

6.1.1.7.1 Definition

Test to verify that the UE shall be able to reselect to a cell of another PLMN declared as equivalent PLMN to the registered PLMN in the manual mode.

6.1.1.7.2 Conformance requirement

B) Manual network selection mode

Once the UE has registered on a PLMN selected by the user, the UE shall not automatically register on a different PLMN unless:

i) The new PLMN is declared as an equivalent PLMN by the registered PLMN;

or,

ii) The user selects automatic mode.

References:

TS 22.011 clause 3.2.2.2B

6.1.1.7.3 Test purpose

To verify that in Manual Network Selection Mode Procedure, the UE can perform cell reselection to an equivalent PLMN.

6.1.1.7.4 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.

Each cell shall include the other cells as neighbouring cells in System Information Block Type 11.

Cell	CPICH_Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-78	-69	1	PLMN 1
Cell 4	-62	-54	2	PLMN 2
Cell7	-68	-64	3	PLMN 3

Values of the system information fields applicable for this test case.to fullfill the criteria of Cell-Reselecton

Parameter	Setting
IMSI attach/detach	Method A, B: Not allowed Method C: Allowed
Cell_selection_and_reselection_quality_measure	CPICH RSCP (FDD)
Qqualmin (FDD only)	-16 dB
Qrxlevmin (FDD)	-115 dBm
Qrxlevmin (TDD)	-103 dBm
DRX cycle length	1,28 s

PLMN1 is the HPLMN.

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

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1

Test procedure

a) The SS activates cells 1.

b) The UE is switched on.

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

d) A Location Update Accept message shall be sent on reception of a Location Update message from the UE. The Location Update Accept message shall include PLMN3 in the equivalent PLMN list. For UE that supports both CS and PS domain or PS domain only, the Location Updating procedure could be replaced by the appropriate GMM registration procedure. In these cases, the GMM Attach Accept message shall include PLMN3 in the equivalent PLMN list.

e) Cell 4 and 7 are activated.

6.1.1.7.5 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 UE shall perform a cell reselection and Location Update or Routing Area Update to PLMN 3, which is equivalent to PLMN1.

6.1.2.8 Cell reselection: Equivalent PLMN

6.1.2.8.1 Definition

Test to verify that the UE performs the cell reselection correctly to a cell belonging to a PLMN Equivalent to the registered PLMN, if the serving cell of registered PLMN becomes barred or S<0.

6.1.2.8.2 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, 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 offset $Qoffset1_{s,n}$ is used for $Qoffset_{s,n}$ to calculate R_n, the hysteresis $Qhyst1_s$ is used for $Qhyst_s$ to calculate R_s.

   If the usage of HCS is indicated in system information, $TEMP\_OFFSET1_n$ is used for $TEMP\_OFFSET_n$ to calculate TO_n. If it is indicated in system information that HCS is not used, $TEMP\_OFFSET_n$ is not applied when calculating R_n. The best ranked cell is the cell with the highest R value.

   If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

   If an FDD cell is ranked as the best cell and the quality measure for cell selection and re-selection is set to CPICH RSCP, the UE shall perform cell re-selection to that FDD cell.

   4.3 In all cases, the UE shall reselect the new cell, only if the the following conditions are met:

   - the new cell is better ranked than the serving cell during a time interval Treselection.
   - more than 1 second has elapsed since the UE camped on the current serving cell.

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.

   - If the UE is camping on another cell, the UE shall exclude the barred cell from the neighbouring cell list until the expiry of a time interval T_{barred}. The time interval T_{barred} is sent via system information in a barred cell together with Cell status information in the Cell Access Restriction IE.
   - If the UE does not select another cell, and the barred cell remains to be the "best" one, the UE shall after expiry of the time interval T_{barred} again check whether the status of the barred cell has changed.

   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, 5.2.1
2. TS 25.304, 4.3
3. TS 25.304, 5.2.5.1
4. TS 25.304, 5.2.6.1.4
5. TS 25.304, 5.3.1.1

6.1.2.8.3 Test purpose

1. To confirm that the UE treats the cell of the equivalent PLMN as a cell of the current PLMN.
2. To verify that the UE performs cell reselection on the following occasions:

   2.1 Serving cell becomes barred.

   2.2 S<0 for serving cell.
3. 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 "Location updating / rejected / location area not allowed" and 9.4.2.4 "Location updating / rejected / roaming not allowed in this LA".

6.1.2.8.4 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 for FDD cells, and P-CCPCH RSCP for TDD cells.

The UE is Idle Updated on PLMN1 in cell 1, and The SS includes PLMN 2 and PLMN 3 under IE 'Equivalent PLMN' during Idle Update Procedure.

Cell 1 indicates in System Information Block Type 11 that Cell 2 and Cell 4 are neighbouring cells.

Cell 2 indicates in System Information Block Type 11 that Cell 1 and Cell 4 are neighbouring cells.

Cell 4 indicates in System Information Block Type 11 that Cell 1 and Cell 2 are neighbouring cells.

Step a-c (FDD):

Parameter	Unit	Cell 1	Cell 2	Cell 4
Test Channel		1	1	2
PLMN		PLMN 1	PLMN 2	PLMN 3
CPICH_Ec	dBm/ 3.84 MHz	-60	-70	-80
Qrxlevmin	dBm	-115	-115	-115
Srxlev*	dB	55	45	35
CellBarred		Not barred	Not barred	Not barred

Step a-c (TDD):

Parameter	Unit	Cell 1	Cell 2	Cell 4
Test Channel		1	1	2
PLMN		PLMN 1	PLMN 2	PLMN 3
P-CCPCH RSCP	dBm	-69	-74	-79
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	29	24

Step d-f:

CellBarred		Not barred->Barred		
Intra-frequency cell re-selection indicator		Not Allowed		
Tbarred	s	10		

Step g-h:

Intra-frequency cell re-selection indicator		Not Allowed -> Allowed		

Step i-k:

Parameter	Unit	Cell 1	Cell 2	Cell 4
CellBarred		Barred -> Not barred	Not barred	Not barred

Step l-m (FDD):

Qrxlevmin	dBm	-115 -> -51	-115	-115
Srxlev*	dBm	55 -> -9	45	35

Step l-m (TDD):

Qrxlevmin	dBm	-103 -> -59	-103	-103
Srxlev*	dBm	34 -> -10	29	24

Test procedure

Method C is applied.

a) The SS activates Cell 2 and 4 and monitors them for random access requests from the UE.

b) The UE is switched on.

f) c) The SS waits for random access requests from the UE. A complete Location Update is done. SS specifies PLMN 2 and 3 are Equivalent to PLMN 1 in Location Update Accept Message. For UE that supports both CS and PS domain or PS domain only, the Location Updating procedure could be replaced by the appropriate GMM registration procedure. In these cases, the GMM Attach Accept message shall include PLMN3 in the equivalent PLMN list.

d) The SS sets Cell 1 to be barred. The SS notifies UE of the BCCH modification.

e) The SS waits for random access requests from the UE. A complete Location Update is done. SS specifies PLMN 1 and 2 are Equivalent to PLMN 3 in Location Update Accept Message. For UE that supports both CS and PS domain or PS domain only, the Location Updating procedure could be replaced by the appropriate GMM Routing Area Updating procedure. In these cases, the Routing Area Update Accept message shall include PLMN3 in the equivalent PLMN list.

f) The SS sets "Intra-frequency cell re-selection indicator" to "Allowed".

g) The SS waits for random access requests from the UE. A complete Location Update is done. For UE that supports both CS and PS domain or PS domain only, the Location Updating procedure could be replaced by a Routing Area Updating procedure.

h) The UE is switched off.

i) The SS activates Cell 1, 2 and 4 and monitors them for random access requests from the UE.

j) The UE is switched on.

k) The SS waits for random access requests from the UE. A complete Location Update is done. SS specifies PLMN 2 and 3 are Equivalent to PLMN 1 in Location Update Accept Message. For UE that supports both CS and PS domain or PS domain only, the Location Updating procedure could be replaced by the appropriate GMM registration procedure. In these cases, the GMM Attach Accept message shall include PLMN3 in the equivalent PLMN list.

l) For FDD cell, Qrxlevmin is increased to -51 dBm, so S will become negative.
For TDD cell, Qrxlevmin is increased to -59 dBm, so S will become negative.
The SS notifies UE of the BCCH modification

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

6.1.2.8.5 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 4.

3) In step g), the UE shall respond on Cell 2.

4) In step k), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.

5) In step m), the UE shall respond on Cell 2.

3GPP TSG RAN WG5 Meeting #27
Bath, UK, 25-29 April, 2005

Tdoc ⌘ R5-050807

CR-Form-v7.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **1142** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	FDD_Qmin values in cell reselection test cases 6.2.2.2 and 6.2.2.3
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change: ⌘ This document is a merged version between Aeroflex CR R5-050650 and R&S CR R5-050621.

From Aeroflex CR R5-050650
Value of FDD_Qmin is not consistent across the test case definition. The value defined in the specific message contents of SYSTEM INFORMATION TYPE 2QUATER is not according to the description in the test cases steps.
In test case 6.2.2.3, the FDD_Qoffset value in the SYSTEM INFORMATION 2QUARTER is also not consistent across the test case definition.

From R&S CR R5-050621
A) The value of FDD_Qmin is inconsistent in the Table SYSTEM INFORMATION TYPE 2QUATER on the one side (-12 dBm) and in the first table under 'Step a-c' of subclause 6.2.2.2.4 on the other side (-20 dBm).

B) 3GPP TS 45.008 [4] says in Clause 6 (Idle mode tasks):

> "…For the purposes of cell selection and reselection, the MS is required to maintain an average of received signal levels for all monitored frequencies. These quantities termed the "received level averages" (**RLA_C**), shall be unweighted averages of the received signal levels measured in dBm. The accuracy of the received signal level measurements for idle mode tasks shall be the same as for radio link measurements (see subclause 8.1.2)…"

and in subclause 6.2:

> "…The MS shall search all RF channels within its bands of operation, take readings of received RF signal level on each RF channel, and calculate the RLA_C for each. The averaging is based on at least five measurement samples per RF carrier spread

over 3 to 5 s, the measurement samples from the different RF carriers being spread evenly during this period…"

Conformance requirement 3) in subclause 6.2.2.2.5 of the test prose says:

"In step g) (signal level on GSM cell -50 dBm -> -80 dBm (4 s) -> -50 dBm) there shall be no access on UTRAN cell 1 ….

It has been shown in a detailled example, which is in line with these requirements, that the reselection condition for the UTRAN cell (RLC_A(GSM cell) < RLC_A(UTRAN cell) for at least 5 s) can be met under the conditions of test case 6.2.2.2, so that UTRAN cell 1 will be accessed in step g) as opposed to the test prose.

The detailled example calculation is contained in R5s050118 (TTCN CR on 6.2.2.2). The reason for the violation is that the UE calculates successive averages, where the 4-seconds-phase in which the GSM cell is weaker (-80 dBm) than the UTRAN cell (-60 dBm) has a stronger effect than the phase where the GSM cell is stronger (-50 dBm).

Additional comment:
The purpose of the test is to verify that the UE performs cell reselection from GSM to UTRAN, then it shall be checked that the RRC Connection Request cause is set to "interRAT_CellReselection".

Summary of change: ⌘

From Aeroflex CR R5-050650

Assigned the same value at different accurance of FDD_Qmin across a single test case.
In addition, in 6.2.2.3 assign to same value to FDD_Qoffset.

From R&S CR R5-050621

A) In the Table SYSTEM INFORMATION TYPE 2QUATER set the value of FDD_Qmin to '000'B (-20 dBm).

B) In the second table under 'Step a-c' of subclause 6.2.2.2.4 set CPICH_Ec (FDD) of UTRAN cell 1 to -65 dBm instead of -60 dBm.

Additional comment:

In the test requirements, clause 6.2.2.2.5, set that the RRC Connection Request cause shall be "interRAT_CellReselection"

Consequences if not approved: ⌘

From Aeroflex CR R5-050650
Prose definition for the test case(s) will not be consistent

From R&S CR R5-050621
To verify that the UE performs cell reselection from GSM to UTRAN With a power level of -60 dBm the UE will in many cases reselect UTRAN cell 1 in step g) and so violate test requirement 3) of 6.2.2.2.5.

Additional comment
Test case will PASS a non conformant UE

Clauses affected: ⌘ 6.2.2.2.4, 6.2.2.2.5 and 6.2.2.3.4

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘ This CR does not have impact on TTCN.

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.
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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.

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 cell 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

UE is idle updated on Cell 9.

Cell 9:

The SS transmitted system information for Cell 1 and Cell 2 shall be according to TS 34.108, clause 6.1.4 with the following exceptions:

The 3G Neighbour Cell Description of Cell 9 (GSM) refers Cell 1 (UTRAN) and Cell 2 (UTRAN).

SYSTEM INFORMATION TYPE 3 REST OCTETS

- SI2q indicated on BCCH Extended

SYSTEM INFORMATION TYPE 2QUATER

Information Element	Value/remark
< **RR management Protocol Discriminator** bit (4) >	‘0110'B
< **Skip Indicator** : bit (4) >	‘0000'B
< **Message type** : bit (8) >	‘0000 0111’B
< **SI2 quarter Rest Octets** >	
< **BA_IND** : bit >	0
< **3G_BA_IND** : bit >	0
< **MP_CHANGE_MARK** : bit >	0
< **SI2quater _INDEX** : bit (4) >	‘0000’B
< **SI2quater_COUNT** : bit (4) >	‘0000’B
0 | 1 < **Measurement_Parameters Description >**	0
0 | 1 < **GPRS_Real Time Difference Description >**	0
0 | 1 < **GPSR_BSIC Description >**	0
0 | 1 < **GPRS_REPORT PRIORITY Description >**	0
0 | 1 < **GPRS_Measurement_Parameters Description >**	0
0 | 1 < **NC Measurement Parameters >**	0
0 | 1 < **extension length** >	0
0 | 1 < **3G Neighbour Cell Description >**	1
0 | 1 < **Index_Start_3G** : bit (7) >	0
0 | 1 < **Absolute_Index_Start_EMR** : bit (7) >	0
0 | 1 < **UTRAN FDD Description >**	1
0 | 1 < **Bandwidth_FDD** : bit (3) >	0
1 < **Repeated UTRAN FDD Neighbour Cells >** ** 0	1
0 < **FDD-ARFCN** : bit (14) >	0 See TS 34.108, clause 6.1.5, table 6.1.1
< **FDD_Indic0** : bit >	0
< **NR_OF_FDD_CELLS** : bit (5) >	‘00002’B
< **FDD_CELL_INFORMATION Field >**	19 bits Scrambling code according to TS 34.108, clause 6.1.4, Default settings for cell No.1 and cell No.2
1 < **Repeated UTRAN FDD Neighbour Cells >** ** 0	0
0 | 1 < **UTRAN TDD Description >**	0
0 | 1 < **3G MEASUREMENT Parameters Description >**	1
< **Qsearch_I :** bit (4) >	‘0111’B (Always)
< **Qsearch_C_Initial :** bit (1) >	0
0 | 1 < **FDD_Qoffset** : bit (4) >	1 ‘1000’B (0 dB)
< **FDD_REP_QUANT** : bit (1) >	0
< **FDD_MULTIRAT_REPORTING** : bit (2) >	‘00’B
< **FDD_Qmin** : bit (3) >	’~~111~~000’B (-~~12~~20 dB)
0 | 1 < **TDD_Qoffset** : bit (4) >	0
0 | 1 < **GPRS_3G_MEASUREMENT Parameters Description >**	1
< **Qsearch_P** : bit (4) >	‘1111’B (Never)
< **3G_SEARCH_PRIO** : bit >	0
0 | 1 < **FDD_REP_QUANT** : bit >	0
0 | 1 < **FDD_REPORTING_OFFSET** : bit (3) >	0
0 | 1 < **TDD_MULTIRAT_REPORTING** : bit (2) >	0
0 | 1 < **TDD_REPORTING_OFFSET** : bit (3) >	0

Cell 1 and Cell 2:

The SS transmitted system information for Cell 1 and Cell 2 shall be according to TS 34.108, clause 6.1.4 with the following exceptions:

The Inter-RAT Cell Info List of Cell 1 (UTRAN) and Cell 2 (UTRAN) refers to Cell 9 (GSM).

Step a-c:

Parameter	Unit	Cell 9 (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	dB	0
CELL_BAR_ACCESS		Not barred
C1*	dB	20

Parameter	Unit	Cell 1 (UTRAN)	Cell 2 (UTRAN)
P-CCPCH_RSCP (TDD)	dBm	-6560	-70
CPICH_Ec (FDD)	dBm/3.84 MHz	-6560	-70
Qrxlevmin	dBm	-101	-101
Srxlev*	dB	41	31

Step d-e:

Parameter	Unit	Cell 9 (GSM)
CELL_BAR_ACCESS		Not barred -> Barred

Step f-g:

Parameter	Unit	Cell 9 (GSM)
RF Signal Level	dBm	-50 -> -80 (4sec) -> -50
C1*	dB	20 -> -10 (4sec) -> 20

Step h:

Parameter	Unit	Cell 9 (GSM)
RF Signal Level	dBm	-50 -> -80
C1*	dB	20 -> -10

Test procedure

Method B is applied.

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

b) Void.

c) Void

d) The SS sets Cell 9 to be barred. The SS notifies UE of the BCCH modification

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

f) The UE is switched off. The SS sets Cell 9 to be not barred

g) Step a-e) is repeated except that in step d), the SS reduces signal level on Cell 9 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 9 to –80 dBm.

6.2.2.2.5 Test Requirements

1) In step a), after the UE has responded on Cell 9, it shall not respond on any other cell within 1 min.

2) In step e), the UE shall respond on Cell 1, the RRC Connection Request cause shall be "interRAT_CellReselection".

3) In step g), there shall be no access on Cell 1 within 30 s, after having reduced the signal level on Cell 9.

4) In step h), the UE shall respond on Cell 1, the RRC Connection Request cause shall be "interRAT_CellReselection".

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 cell 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 cell 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

UE is idle updated on Cell 9.

Cell 9 and Cell 10:

The SS transmitted system information for Cell 1 and Cell 2 shall be according to TS 34.108, clause 6.1.4 with the following exceptions:

The 3G Neighbour Cell Description of Cell 9 (GSM) and Cell 10 (GSM) refers Cell 1 (UTRAN).

SYSTEM INFORMATION TYPE 3 REST OCTETS

- SI2q indicated on BCCH Norm

SYSTEM INFORMATION TYPE 2QUATER

Information Element	Value/remark
< **RR management Protocol Discriminator** bit (4) >	‘0110'B
< **Skip Indicator** : bit (4) >	‘0000'B
< **Message type** : bit (8) >	‘0000 0111’B
< **SI2 quarter Rest Octets** >	
< **BA_IND** : bit >	0
< **3G_BA_IND** : bit >	0
< **MP_CHANGE_MARK** : bit >	0
< **SI2quater _INDEX** : bit (4) >	‘0000’B
< **SI2quater_COUNT** : bit (4) >	‘0000’B
0 | 1 < **Measurement_Parameters Description >**	0
0 | 1 < **GPRS_Real Time Difference Description >**	0
0 | 1 < **GPSR_BSIC Description >**	0
0 | 1 < **GPRS_REPORT PRIORITY Description >**	0
0 | 1 < **GPRS_Measurement_Parameters Description >**	0
0 | 1 < **NC Measurement Parameters >**	0
0 | 1 < **extension length** >	0
0 | 1 < **3G Neighbour Cell Description >**	1
0 | 1 < **Index_Start_3G** : bit (7) >	0
0 | 1 < **Absolute_Index_Start_EMR** : bit (7) >	0
0 | 1 < **UTRAN FDD Description >**	1
0 | 1 < **Bandwidth_FDD** : bit (3) >	0
1 < **Repeated UTRAN FDD Neighbour Cells >** ** 0	1
0 < **FDD-ARFCN** : bit (14) >	0 See TS 34.108, clause 6.1.5, table 6.1.1
< **FDD_Indic0** : bit >	0
< **NR_OF_FDD_CELLS** : bit (5) >	‘00001’B
< **FDD_CELL_INFORMATION Field >**	10 bits Scrambling code according to TS 34.108, clause 6.1.4, Default settings for cell No.1
1 < **Repeated UTRAN FDD Neighbour Cells >** ** 0	0
0 | 1 < **UTRAN TDD Description >**	0
0 | 1 < **3G MEASUREMENT Parameters Description >**	1
< **Qsearch_I :** bit (4) >	‘0111’B (Always)
< **Qsearch_C_Initial :** bit (1) >	0
0 | 1 < **FDD_Qoffset** : bit (4) >	1 ‘10010’B (50 dB)
< **FDD_REP_QUANT** : bit (1) >	0
< **FDD_MULTIRAT_REPORTING** : bit (2) >	‘00’B
< **FDD_Qmin** : bit (3) >	’111000’B (-1220 dB)
0 | 1 < **TDD_Qoffset** : bit (4) >	0
0 | 1 < **GPRS_3G_MEASUREMENT Parameters Description >**	1
< **Qsearch_P** : bit (4) >	‘1111’B (Never)
< **3G_SEARCH_PRIO** : bit >	0
0 | 1 < **FDD_REP_QUANT** : bit >	0
0 | 1 < **FDD_REPORTING_OFFSET** : bit (3) >	0
0 | 1 < **TDD_MULTIRAT_REPORTING** : bit (2) >	0
0 | 1 < **TDD_REPORTING_OFFSET** : bit (3) >	0

Cell 1:

The SS transmitted system information for Cell 1 shall be according to TS 34.108, clause 6.1.4 with the following exceptions:

The Inter-RAT Cell Info List of Cell 1 (UTRAN) refers to Cell 9 (GSM) and Cell 10 (GSM).

Step a-c:

Parameter	Unit	Cell 9 (GSM)	Cell 10 (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	dB	5	5

Parameter	Unit	Cell 1 (UTRAN)
Test Channel		1
CPICH_Ec (FDD)	dBm / 3.84 MHz	-74
P-CCPCH_RSCP (TDD)	dBm	-74
Qrxlevmin	dBm	-101
Srxlev*	dB	27

Step d-g:

Parameter	Unit	Cell 9 (GSM)	Cell 10 (GSM)
RF Signal Level	dBm	-70 -> -82 (4 s) -> -70	OFF

Step h-j:

Parameter	Unit	Cell 9 (GSM)	Cell 10 (GSM)
RF Signal Level	dBm	-82 -> -70	OFF

Step k-m:

Parameter	Unit	Cell 9 (GSM)	Cell 10 (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 B is applied.

a) The SS activates the channels. The UE is not paged on any of the cells.

b) Void

c) After 50 s, the SS starts paging continuously on cells 9 and 1 for 20 s. The SS monitors cells 9 and 1 for random access requests from the UE. The SS does not respond to any of the random access requests to trigger automatic cell reselection.

d) Cell 10 is switched off. The SS stops paging on the cells and waits for 20 s. (The UE should revert to Cell 9 due to cell reselection).

e) The SS starts paging continuously on Cell 1.

f) The SS decreases the transmit level of Cell 9 to –82 dBm for a period of 4 s (RSCP will then exceed RLA_C value of Cell 9 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 1.

h) The SS stops paging on all cells and sets the transmit level of Cell 9 to –82 dBm.

i) The SS waits 20 s and then starts paging continously on Cell 9. (The UE should revert to Cell 1 due to cell reselection).

j) The SS increases the transmit level of Cell 9 to –70 dBm and waits for the UE to access on Cell 9. The SS records the time t from the increase in the level of Cell 9 to the first response from the UE.

k) The SS stops paging on all cells and sets the transmit level of Cell 9 back to –82 dBm.

l) The SS waits 20 s (The UE should revert to Cell 1 due to cell reselection).

m) The SS increases the transmit level of Cell 9 to –70 dBm. After t+2 s (i.e. 2 s after reselection to Cell 9), the SS starts paging continuously on Cell 1, changes the level of Cell 9 back to –82 dBm and waits to see if there is any random access request on Cell 1. (Within 15 sec after cell reselection to GSM, the level of Cell 9 is -82 + 10 dBm=-72 dBm. After the 15 s period, the level of Cell 9 is –82 + 5 dBm=-77 dBm. The level of Cell 1 is –74 dBm, thus leading to reselection to Cell 1 after 15 s).

6.2.2.3.5 Test Requirements

1) In step c), after the UE has reselected Cell 9 from Cell 1 as indicated by random access requests, any random access requests on Cell 1 shall not occur within 4,5 s of the last random access request on Cell 9.

2) In step g), there shall be no access on Cell 1 within 34 s of decreasing the level of Cell 9.

3) In step j), the UE shall respond on Cell 9.

4) In step m), there shall be no response on Cell 1 within 11 s after the level of Cell 9 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 9. A further 2 s are subtracted to cover for any uncertainty introduced by the random access process occurring after step g).

3GPP TSG-RAN WG5 Meeting #27 ***Tdoc ⌘R5-050966***

Bath, UK, April 25th- 29th, 2005 **Agenda Item 8.8.1**

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1143** ⌘**rev** **-** ⌘ Current version: **5.11.0** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 Rel-5; New cell reselection test case on HCS inter-frequency cell reselection
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	18/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘ There is no test case on HCS inter-frequency cell reselection. CR135rev1 decouples intra- and inter frequency cell reselection meaurement rules in the following way:

When HCS is used and Sintrasearch is not sent for the serving cell but SsearchHCS and Sintersearch (in FDD) are sent, the UE is mandated to meassure on:
- All intra-frequency neighbouring cells, and
- if (Srxlev > SsearchHCS) and (Sx > Sintersearch): all inter-frequency cells, which have higher HCS priority level than the serving cell, otherwise all inter-frequency cells.

Previously, the UE was mandated to measure on all cells when Sintrasearch was not sent. Hence, it was not possible to decouple inter-frequency measurements and cell reselections from intra-frequency cell reselections, since when Sintrasearch, Sintersearch and SsearchHCS are all sent the same threshold values are used both for inter- and intra-frequency cells.

This procedure will be used in live networks. A typical scenario for using it will be hotspot scenarios. The macro hotspot cells encounter less other cell interference and have a lot of capacity. In the hotspot cells the cell reselection inter frequency threshold $S_{intrasearch}$ is therefore set to a low value, to make terminals stay on the hotspot cell as long as possible (i.e. until the cell quality becomes too low).

By using HCS both CPICH Ec/No thresholds and a CPICH RSCP thresholds are defined. CPICH Ec/No is a good measure of downlink quality and CPICH RSCP

	is a good measure of uplink quality. These measures are thus complementing each other and are both necessary to define the quality of a cell. With CR135rev1, using HCS for this hotspot scenario is superior of other solutions in respect to backwards compatibility issues, especially when neighbour inter-RAT cells are also available. This scenario should be reflected in RAN5 specifications.
Summary of change: ⌘	A new test case is created: 6.1.2.10 HCS inter-frequency cell reselection In this test case, Sintrasearch, Sintersearch and SsearchHCS are set such that the HCS measurement rules implies that only high priority cells are measured. No cell reselection shall be performed in this state, since all cells have the same priority as the serving cell. Then Sintrasearch is not sent. In this state all intra-frequency cells shall be measured and the UE shall reselect to the best intra-frequency cell. By CR135rev1 no inter-frequency cells shall be measured, and hence the UE cannot reselect to any inter-frequency cell. Finally, Srxlev is lowered such that the UE is mandated to measure all cells. The UE shall then reselect to the best cell, which shall here trigger a inter-frequency cell reselection.
Consequences if not approved: ⌘	Insufficient test coverage.

Clauses affected:	⌘	6.1.2.10 (new)			
Other specs affected:	⌘	Y / N N Y N	Other core specifications Test specifications O&M Specifications	⌘	34.123-2
Other comments:	⌘	Affects Rel-5 UEs.			

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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.

6.1.2.10 HCS inter-frequency cell reselection

6.1.2.10.1 Definition

Test to verify that the UE performs inter-frequency cell reselection correctly for hierarchical cell structures in FDD. This shall be done according to the received signal quality value Q and the quality level thresholds Sintrasearch, Sintersearch and SsearchHCS.

6.1.2.10.2 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.

   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 thresholds for measurement rules for cell reselection can be used to control inter-frequency cell reselections. Intra-frequency cell reselections shall still be performed if Sintrasearch is not sent.

   2.2 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.

   2.3 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.

   2.4 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.

   2.5 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

   2.6 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 5.2.6.1.2.
3. TS 25.304, clause 5.2.6.1.4.

6.1.2.10.3 Test purpose

1. Verify that in FDD the UE ignores inter-frequency cells for reselection when Sintraseach is not sent, and Sintersearch < Squal and SsearchHCS < Srxlev. The modification of this parameter on the BCCH shall trigger the cell reselection evaluation process.
2. Verify that in FDD the UE reselect to an inter-frequency cells when Sintraseach is not sent, and Sintersearch < Squal but SsearchHCS > Srxlev. The modification of this parameter on the BCCH shall trigger the cell reselection evaluation process. Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME and Treselection are not applied so R equals CPICH_RSCP for FDD cells.

6.1.2.10.4 Method of test

Initial conditions

SS shall indicate in System Information that HCS is in use.

Each cell shall include the other cells as neighbouring cells in System Information Block Type 11.

For FDD only:

Step a-d:

Parameter	Unit	Cell 1	Cell 2	Cell 4
Test Channel		1	1	2
HCS priority		6	6	6
CPICH Ec	dBm/3.84 MHz	-70	-65	-60
CPICH Ec/No	dB	-11	-6	-5
Qrxlevmin	dBm	-109	-105	-99
Qqualmin	dB	-24	-24	-24
Srxlev*	dB	39 ~~40~~	40	39 ~~40~~
Squal*	dB	13 ~~20~~	18 ~~20~~	19 ~~20~~
Sintrasearch	dB	8 ~~16~~	8 ~~16~~	8 ~~16~~
Sintersearch	dB	8 ~~16~~	8 ~~16~~	8 ~~16~~
SsearchHCS	dB	35	35	35
$Qhcs_s$	dBm	-80	-80	-80
$Qhcs_{n=1}$	dBm	n/a	-80	-80
$Qhcs_{n=2}$	dBm	-80	n/a	-80
$Qhcs_{n=3}$	dBm	-80	-80	n/a
H_s*	dB	10	15	20
$H_{n=1}$*	dB	n/a	10	10
$H_{n=2}$*	dB	15	n/a	15
$H_{n=3}$*	dB	20	20	n/a

Step e-f:

Sintrasearch	dB	8 ~~16~~ -> n/a	8 ~~16~~ -> n/a	8 ~~16~~ -> n/a

Step g-h:

Srxlev*	dB	39 ~~40~~	40->20	39 ~~40~~
Qrxlevmin	dBm	-109	-105 -> -85	-99

Test procedure

Method B is applied.

a) The SS activates cell 1

b) The UE is switched on.

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

d) The SS activates cell 2-4 and monitors them for random access requests from the UE

e) The SS stops the transmission of Sintrasearch in all cells, and notifies UE of the BCCH modification.

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

g) The SS changes Qrxlevmin for Cell 2, and notifies UE of the BCCH modification.

h) The SS waits for random access requests from the UE.

6.1.2.10.5 Test requirements

1) In step c, the UE shall respond on cell 1

2) In step d, the UE shall not respond on cell 2 or 4

3) In step f), the UE shall respond on Cell 2.

4) In step h), the UE shall respond on Cell 4.

6.2 Multi-mode environment (2G/3G case)

For Inter-RAT idle mode test cases cells belonging to different RAT shall use different LAC and RAC.

6.2.1 PLMN and RAT selection

3GPP TSG-R5 Meeting #27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050504

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1144** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘ Correction to Package 2 RRC test case 8.1.10.1		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	***Date:*** ⌘	15/04/2005
Category:	⌘ **F**	***Release:*** ⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change: ⌘

1) According to 25.331 section 10.3.6.71, in System Information Block type 6, the IE "Secondary scrambling code" for SCCPCH should only be sent for SCCPCH not carrying the PCH.

In the specific message contents for System Information Block type 6, SCCPCH Secondary scrambling code is set as 1, even though it carries PCH.

2) According to 25.331 section 10.3.7.2, in System Information Block type 11 and 12, the IE 'Reference time difference to cell' should be absent for the serving cell.

In the specific message contents for System Information Block type 11 and 12, IE 'Reference time difference to cell' for serving cell is set as 0.

3) According to 25.331 section 10.3.7.60 IE "Reference time difference to Cell," indicates the timing difference between the primary CCPCH of the current cell and the primary CCPCH of a neighbouring cell.

However in the specific message contents for System Information Block type 11 and 12, the IE 'Reference time difference to cell' for the neighbouring cell is set as 0.

In order to make TTCN implementation independent of timing offset this IE is set to "Not Present". This change does not affect the test purpose.

Summary of change: ⌘ 1) In the specific message content for System Information Block type 6, IE

		"SCCPCH Secondary scrambling code" is set to "Not Present". 2) In specific message contents for System Information Block type 11 and 12, the IE 'Reference time difference to cell' is set to "Not Present" for the serving cell. 3) In specific message content for System Information Block type 11 and 12, the IE 'Reference time difference to cell' is set to "Not Present" for the neighbouring cell.
Consequences if not approved:	⌘	Incorrect Specification.

Clauses affected:	⌘	8.1.10.1.4		
Other specs Affected:	⌘	Y / N N X X X	Other core specifications Test specifications O&M Specifications	⌘
Other comments:	⌘	This CR aligns 34.123-1 to TTCN implementation.		

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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>

8.1.10.1 Dynamic change of segmentation, concatenation & scheduling and handling of unsupported information blocks

8.1.10.1.1 Definition

8.1.10.1.2 Conformance requirement

1. The RRC layer in the UE shall perform re-assembly of segments. All segments belonging to the same master information block, scheduling block or system information block shall be assembled in ascending order with respect to the segment index. When all segments of the master information block, scheduling block or a system information block have been received, the UE shall perform decoding of the complete master information block, scheduling block or system information block.

2. For all system information blocks or scheduling blocks that are supported by the UE referenced in the master information block or the scheduling blocks, the UE shall perform the following actions:

   ……..

   - read and store the IEs of that system information block;

NOTE: There are options with and without scheduling blocks.

3. For system information blocks, not supported by the UE…….

   - skip reading this system information block;

   - skip monitoring changes to this system information block.

4. However, to enable future introduction of new system information blocks, the UE shall also be able to receive system information blocks other than the ones indicated within the scheduling information. The UE may ignore contents of such system information block.

Reference

3GPP TS 25.331 clause 8.1.1.1.4, 8.1.1.5 and 8.1.1.6.

8.1.10.1.3 Test Purpose

1. To verify that dynamic change of System Information is identified, new information read and used.

2. To verify that the UE can support all segment types and "all" segment combinations.

3. To verify that the UE can dynamically use different configurations

4. To verify that the UE properly uses combinations of Default and assigned values.

NOTE: There are 4 segment types and 11 different SYSTEM INFORMATION segment combinations to interpret when re-assembling segments. There are many alternative SIB position offsets and repetition rates.

The allowed segment types are:

- First segment

- Subsequent segment

- Last segment

- Complete

The allowed segment combinations are:

1. No segment
2. First segment
3. Subsequent segment
4. Last segment
5. Last segment + First segment
6. Last segment + one or several Complete
7. Last segment + one or several Complete + First segment
8. One or several Complete
9. One or several Complete + First segment
10. One Complete of size 215 to 226 (not fully tested)
11. Last segment of size 215 to 222

NOTE: Segment combinations 10 and 11 are more difficult to test as they require SIBs of a very specific size.

8.1.10.1.4 Method of test

Alternate two sets of System Information and generate a call after one or the other set has been broadcasted.

These two sets of System Information are based on the System Information specified in 34.108, section 6.

A "Minimum" configuration and a "Maximum" configuration of System Information are defined. The "Minimum" configuration does not contain all of the Information Blocks defined for Configuration 1 in section 6 of 34.108. On the other hand the "Maximum" configuration, defined by the scheduling information in Table 2, contains extra optional information blocks to ensure that the SIB configuration is consistent with the defined scheduling The contents of the SIBs remains the same (the contents of SIB11 changes for the "Maximum" configuration) while the contents of the MIB and SB is altered depending on the nature of the test, i.e. the schedule changes between the "Minimum" and "Maximum" configurations.

The four segment types and the eleven segment combinations are tested using the two configurations.

NOTE: The decoding of system information in the UE is only measurable by functional tests. A large number of functions utilize system information. An extensive test of the system information decoding thus creates a large number of functional tests, which is impractical. This test specification uses a "sample test", where only a few functions are invoked.

Initial Condition

System Simulator: 2 cells (Cell 1, Cell 2), settings for Cell 1 and Cell 2 according to TS 34.108, clause 6.1.5, table 6.1.2 (Cell 1 configured as the serving cell). The Minimum Configuration System Information is being broadcast in Cell 1. The Maximum Configuration System Information is being broadcast in Cell 2.

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

Table 8.1.10.1-1 illustrates the downlink power to be applied for the 2 cells.

Table 8.1.10.1-1

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec	dBm/ 3.84 MHz	-60	-65

a) The UE is in C1 in Camped Normally state.

b) UE starts establishing a MO call/session.

c) SS disconnects the call. UE shall enter IDLE state.

d) The SS sets the Cell Barred Indicator in SIB3 to "Barred". The SS notifies the UE of the changed System Information by sending the Paging Type 1 message including the IE BCCH Modification Info indicating that new System Information is available.

e) Based on the updated information in SIB3, the UE performs a cell reselection to Cell 2. The UE reads the System Information in Cell 2, i.e. Maximum Configuration System Information.

f) UE starts establishing a MO call/session.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	UE			Mobile originated call/session establishment
2	SS			Disconnection of call
3	←		System Information (Minimum Configuration)	System Information message is sent in Cell 1 with the Cell Barred Indicator in SIB3 set to "Barred".
4	←		Paging Type 1	This message is to inform the UE in Idle State that System Information has been updated.
5	UE			Mobile originated call /session establishment
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content for "Minimum" configuration

The Minimum configuration is the same as the Configuration 1 System Information on 34.108, section 6 with some differences:

- Only SIB1, SIB3, SIB5, SIB7, SIB11 are used, i.e. the Minimum number of SIBs is used.
- No SB is used, all scheduling information is contained in the MIB. The contents of this changed MIB are shown below.
- A different schedule is used. Details below.
- SIB11 lists eight cells (one serving cell and seven neighbouring cells). Only the first two of these are considered relevant.

Other characteristics of the Minimum configuration are:

- An unknown future System Information Block (SIB-F1) is included. SIB-F1 is used to test segment combination 10. However, it should be noted that, based on the scheduling information in the MIB, UEs may decide not to

read segment combinations associated with SIBs that they do not support/comprehend. Hence, the use of SIB-F1 does not fully cover the verification of combinations 10. The tests really just verify that UE ignores it. There is no real verification that the UE can support segment combinations 10.

The following tables show (based on SIB_REP and SIB_POS in the MIB and SB) the schedule used for the Minimum configuration.

Table 1: The schedule in this table incorporates segment combinations 1, 2, 3, 4, 7, 8, 10.

Block Type	MIB	SIB1	SIB3	SIB5	SIB7	SIB11
SIB_REP	8	64	64	64	16	64
SEG_ COUNT	1	1	1	3	1	3

Frame No / SIB_POS	0	2	4	6	8	10	12	14
Block Type	MIB		SIB7		MIB			

Frame No / SIB_POS	16	18	20	22	24	26	28	30
Block Type	MIB		SIB7/SIB 3	SIB1	MIB		SIB-F1	SIB5

Frame No / SIB_POS	32	34	36	38	40	42	44	46
Block Type	MIB	SIB5	SIB5/SIB 7/SIB11	SIB11	MIB	SIB11		

Frame No / SIB_POS	48	50	52	54	56	58	60	62
Block Type	MIB		SIB7		MIB			

Contents of Master Information Block PLMN type is the case of GSM-MAP

- MIB value tag	1
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity	
- MCC digit	Set to the same Mobile Country Codes stored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- MNC digit	Set to the same Mobile Network Codesstored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- ANSI-41 Core Network information	Not Present
- References to other system information blocks and scheduling blocks	
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	PLMN Value tag
- PLMN Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	22
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 1
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	20
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 3
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	30
- SIB_POS offset info	
- SIB_OFF	4
- SIB_OFF	2
- SIB type	System Information Type 5
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	4
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	36
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	4
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	28
- SIB_POS offset info	Not Present – use default
- SIB and SB type	System Information Type F1

Specific message content for "Maximum" configuration

The Maximum configuration is the same as the Configuration 1 System Information on 34.108, section 6 with some differences:

- A different schedule is used. Details below.
- SIB11 lists eight cells (one serving cell and seven neighbouring cells). Only the first two of these are considered relevant. It should also include some of the optional IE's to fit the scheduling information for maximum configuration.
- SIB6 and SIB12 includes some of the optional IEs even if having same values as correspondent IEs in SIB5 and SIB11 respectively (to fascilitate implementation of the test case for the Maximum configuration) to fit the scheduling information for maximum configuration.

Other characteristics of the Maximum configuration are:

- one "unknown future" block (SIB-F2) is included. This SIB is concatenated with another SIB and is used to verify that the UE can receive an Information Block that it does not support and still process the Information Blocks that it does support in the correct way.
- The test of the segment combination 9 is verified if the UE is able to read SIB7 and the first segment of SIB5 in position 4.
- The test of the segment combination 11 is verified if the UE is able to read the last segment of SIB 5. The SS ensures that this last segment shall have the length between 215 and 222 bits. Depending on the length of SIB 5, the combination 11 occurs either in SIB_position 6, or in the most cases in SIB_position 10

The following tables show (based on SIB_REP and SIB_POS in the MIB and SB) the schedule used for the Maximum configuration.

Table 2: The schedule in this table incorporates segment combinations 1, 2, 3, 5, 6, 8, 9, 11.

Block Type	MIB	SB1	SIB1	SIB2	SIB3	SIB4	SIB5	SIB6	SIB7	SIB11	SIB12	SIB18
SIB_REP	8	16	64	64	64	64	64	64	32	64	64	64
SEG_ COUNT	1	1	1	1	1	1	3	3	1	4	4	1

Frame No / SIB_POS	0	2	4	6	8	10	12	14
Block Type	MIB	SB1	SIB7/ SIB5	SIB5	MIB	SIB5	SIB3/SIB -F2	SIB11

Frame No / SIB_POS	16	18	20	22	24	26	28	30
Block Type	MIB	SB1	SIB11	SIB11	MIB	SIB11/SI B12	SIB12	SIB12

Frame No / SIB_POS	32	34	36	38	40	42	44	46
Block Type	MIB	SB1	SIB7/SIB 18	SIB12	MIB	SIB6	SIB6	SIB6/SIB 2

Frame No / SIB_POS	48	50	52	54	56	58	60	62
Block Type	MIB	SB1	SIB4		MIB	SIB1		

Contents of Master Information Block PLMN type is the case of GSM-MAP

Information Element	Value/remark
- MIB value tag	1
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity	
- MCC digit	Set to the same Mobile Country Codes stored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- MNC digit	Set to the same Mobile Network Codesstored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- ANSI-41 Core Network information	Not Present
- References to other system information blocks and scheduling blocks	
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value Tag
- Cell Value tag	1
- Scheduling	
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	2
- SIB_POS offset info	Not Present – use default
- SIB type	Scheduling Block 1
- Scheduling information	
- CHOICE Value tag	PLMN Value tag
- PLMN Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	58
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 1
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	46
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 2
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	12
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 3
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	52
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 4
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	4
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	4
- SIB type	System Information Type 5

Contents of Scheduling Block 1 (FDD and TDD 1.28 Mcps option)

Information Element	Value/remark
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	42
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 6
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	32
- SIB_POS	4
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	4
- SIB_REP	64
- SIB_POS	14
- SIB_POS offset info	
- SIB_OFF	6
- SIB_OFF	2
- SIB_OFF	4
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	4
- SIB_REP	64
- SIB_POS	26
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB_OFF	8
- SIB and SB type	System Information Type 12
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	36
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 18
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	12
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type F2

Contents of Scheduling Block 1 (TDD 3.84 Mcps option)

Information Element	Value/remark
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	4

- SIB_REP	128
- SIB_POS	3
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 6
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	2
- SIB_POS offset info	Not Present
- SIB type SIBs only	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	29
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	13
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 12
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	54
- SIB_POS offset info	Not Present
- SIB type SB	System Information Type 18
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	6
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type F2

Contents of System Information Block type F1

Information Element	Value/remark
Data	Arbitrary data with a size of 226 bits

Contents of System Information Block type F2

Information Element	Value/remark
Data	Arbitrary data with a size of 50 bits

NOTE: For these future System Information Block types one of the available spare values for SIB type should be used

Contents of SYSTEM INFORMATION BLOCK TYPE 6 (FDD)

- PICH Power offset	-5 dB
- CHOICE Mode	FDD
- AICH Power offset	-5 dB
- Primary CCPCH info	present
- PRACH system information list	
- PRACH system information	
- PRACH info	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SF	64
- Preamble scrambling code number	0
- Puncturing Limit	1.00
- 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	Configured
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	Configured
- 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	
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0 dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- CHOICE mode	FDD
- Gain factor ßc	11
- Gain factor ßd	15
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0 dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- 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 TX power	31
- Constant value	-10
- PRACH power offset	
- Power Ramp Step	3dB
- Preamble Retrans Max	4
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Channelisation code	3
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system information	
- Secondary CCPCH info	
- CHOICE mode	FDD
- Secondary scrambling code	~~1~~Not Present
- STTD indicator	FALSE
- Spreading factor	64
- Code number	1
- Pilot symbol existence	FALSE
- TFCI existence	TRUE (default value)
- Fixed or Flexible position	Flexible (default value)
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	4 bit
- CTFC information	0
- Power offset information	Not Present

- CTFC information	1
- Power offset information	Not Present
- CTFC information	2
- Power offset information	Not Present
- CTFC information	3
- Power offset information	Not Present
- CTFC information	4
- Power offset information	Not Present
- CTFC information	5
- Power offset information	Not Present
- CTFC information	6
- Power offset information	Not Present
- CTFC information	8
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	240
- Number of TB and TTI List	
- Number of Transport blocks	0
- 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	230
- CRC size	16 bit
- Transport Channel Identity	12 (for PCH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	168
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- Number of Transport blocks	2
- 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	220
- CRC size	16 bit
- Transport Channel Identity	13 (for FACH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	360
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Turbo
- Rate matching attribute	130
- CRC size	16bit
- Transport Channel Identity	14 (for FACH)
- CTCH indicator	FALSE
- PICH info	
- CHOICE mode	FDD
- Channelisation code	2
- Number of PI per frame	18
- STTD indicator	FALSE

- CBS DRX Level 1 information	Not Present

Contents of SYSTEM INFORMATION BLOCK TYPE 11 (FDD)

- Sib12 Indicator	TRUE
- FACH measurement occasion info	Present
- Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	Not Present Absence of this IE is equivalent to default value 1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	31
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	3
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Intra-frequency cell id	7
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.7 (FDD)" in clause 6.1.4
- Intra-frequency cell id	8
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.8 (FDD)" in clause 6.1.4
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter coefficient	Not present Absence of this IE is equivalent to the default value 0
- CHOICE mode	FDD
- Measurement quantity	CPICH RSCP

- Intra-frequency reporting quantity for RACH Reporting	Not Present
- Maximum number of reported cells on RACH	Not Present
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Intra-frequency measurement reporting criteria	
- Parameters required for each event	3 kinds
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	2
- Replacement activation threshold	Present
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1b
- Triggering condition 1	Active set cells
- Triggering condition 2	Not Present
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Not Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	640
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1c
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present

- Reporting Range Constant	Not Present
- Cells forbidden to affect Reporting range	Not Present
- W	Not Present
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	3
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New inter-frequency cells	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 4
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.4 (FDD)" in clause 6.1.4
- Primary CPICH Tx power	31
- TX Diversity Indicator	FALSE
- Cell Selection and Re-selection Info	present (same values as for serving cell applies)
- Inter frequency cell id	5
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.5 (FDD)" in clause 6.1.4
- Inter frequency cell id	6
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.6 (FDD)" in clause 6.1.4
- Cell for measurement	Not present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement identity	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present

- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	Not Present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodical trigger
- Report Criteria Sys Inf	
- Periodical Reporting Criteria	
- Reporting Amount	Inifinity
- Reporting interval	8000

Contents of SYSTEM INFORMATION BLOCK TYPE 12 (FDD)

- FACH measurement occasion info	Present
- Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	Not Present Absence of this IE is equivalent to default value 1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	31
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	3
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Intra-frequency cell id	7
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.7 (FDD)" in clause 6.1.4
- Intra-frequency cell id	8
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.8 (FDD)" in clause 6.1.4
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter coefficient	Not present Absence of this IE is equivalent to the default value 0
- CHOICE mode	FDD
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH	Not Present

Reporting	
- Maximum number of reported cells on RACH	Not Present
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Intra-frequency measurement reporting criteria	
- Parameters required for each event	3 kinds
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	2
- Replacement activation threshold	Present
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1b
- Triggering condition 1	Active set cells
- Triggering condition 2	Not Present
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Not Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	640
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1c
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
- Reporting Range Constant	Not Present

- Cells forbidden to affect Reporting range	Not Present
- W	Not Present
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	3
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New inter-frequency cells	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 4
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	~~0~~Not Present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.4 (FDD)" in clause 6.1.4
- Primary CPICH Tx power	31
- TX Diversity Indicator	FALSE
- Cell Selection and Re-selection Info	present (same values as for serving cell applies)
- Inter frequency cell id	5
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.5 (FDD)" in clause 6.1.4
- Inter frequency cell id	6
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.6 (FDD)" in clause 6.1.4
- Cell for measurement	Not present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement identity	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	

- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	Not Present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodical trigger
- Report Criteria Sys Inf	
- Periodical Reporting Criteria	
- Reporting Amount	Inifinity
- Reporting interval	8000

8.1.10.1.5 Test requirement

After step 1 the UE shall have a call/session established in Cell 1.

After step 5 the UE shall have a call/session established in Cell 2.

<END OF MODIFIED SECTION>

3GPP TSG-R5 Meeting R5#27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050523

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1145** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to RRC test case 8.1.1.9 (GCF Work Item 12)
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	The specific message contents for Paging type 1 message at step 4 specifies the value for the IE "paging cause" for the paging record 3 as 'Terminating Conversational Call' for the CS domain and 'Terminating Interactive Call' for the PS domain. However, this IE should be set based on the type of service supported by UE.
Summary of change:	⌘	In the specific message content for the paging type 1 message sent at step 4 for paging record 3, the value of IE "paging cause" for the CS and PS domain is changed to 'Terminating Call with one of the supported services'
Consequences if not approved:	⌘	Incorrect Specification.

Clauses affected:	⌘	8.1.1.9.4
Other specs Affected:	⌘	Y N ☐ ☒ Other core specifications ☐ ☒ Test specifications ☐ ☒ O&M Specifications
Other comments:	⌘	This CR does not require TTCN change.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

<< START OF MODIFIED SECTION >>

8.1.1.9 Paging for Connection in idle mode (multiple paging records)

8.1.1.9.1 Definition

8.1.1.9.2 Conformance requirement

A UE in idle mode, CELL_PCH state or URA_PCH state shall receive the paging information for all its monitored paging occasions. For an UE in idle mode, the paging occasions are specified in [25.304] and depend on the IE "CN domain specific DRX cycle length coefficient", as specified in subclause 8.6.3.1a. For a UE in CELL_PCH state or URA_PCH state, the paging occasions depend also on the IE "UTRAN DRX cycle length coefficient" and the IE "RRC State Indicator", as specified in subclauses 8.6.3.2 and 8.6.3.3 respectively.

When the UE receives a PAGING TYPE 1 message, it shall perform the actions as specified below.

If the UE is in idle mode, for each occurrence of the IE "Paging record" included in the message the UE shall:

1> if the IE "Used paging identity" is a CN identity:

2> compare the IE "UE identity" with all of its allocated CN UE identities:

2> if one match is found:

3> indicate reception of paging; and

3> forward the IE "CN domain identity", the IE "UE identity" and the IE "Paging cause" to the upper layers.

1> otherwise:

2> ignore that paging record.

:

In the UE, the initial direct transfer procedure shall be initiated, when the upper layers request establishment of a signalling connection. This request also includes a request for the transfer of a NAS message.

Upon initiation of the initial direct transfer procedure when the UE is in idle mode, the UE shall:

1> set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers;

1> perform an RRC connection establishment procedure, according to subclause 8.1.3;

1> if the RRC connection establishment procedure was not successful:

2> indicate failure to establish the signalling connection to upper layers and end the procedure.

1> when the RRC connection establishment procedure is completed successfully:

2> continue with the initial direct transfer procedure as below.

Upon initiation of the initial direct transfer procedure when the UE is in CELL_PCH or URA_PCH state, the UE shall:

1> perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";

1> when the cell update procedure completed successfully:

2> continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

1> set the IE "NAS message" as received from upper layers; and

1> set the IE "CN domain identity" as indicated by the upper layers; and

1> set the IE "Intra Domain NAS Node Selector" as follows:

2> derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and

2> provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:

1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;

2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;

3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

1> calculate the START according to subclause 8.5.9 for the CN domain as set in the IE "CN Domain Identity"; and

1> include the calculated START value for that CN domain in the IE "START".

In CELL_FACH state, the UE shall:

1> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);

1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall:

1> transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;

1> when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:

2> confirm the establishment of a signalling connection to upper layers; and

2> add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS.

1> when the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC:

2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.2 and 8.1.8, 3GPP TS 25.211 clause 5.3.3.10 (FDD), 3GPP TS25.221 (TDD), 3GPP TS 25.304 clause 8.

8.1.1.9.3 Test purpose

1) For the CS domain

To confirm that the UE establishes an RRC connection after it receives a PAGING TYPE 1 message which contains multiple paging records and includes IE "UE identity"(in IE "Paging Record") set to the IMSI of the UE, and responds with a correct INITIAL DIRECT TRANSFER message.

2) For the PS domain

To confirm that the UE establishes an RRC connection after it receives a PAGING TYPE 1 message which contains multiple paging records and includes IE "UE identity"(in IE "Paging Record") set to the P-TMSI allocated by SS at initial attach and responds with a correct INITIAL DIRECT TRANSFER message.

8.1.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell. PICH is configured with "Number of PI per frame" set to 36.

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 in the CS domain), 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 also transmits SYSTEM INFORMATION BLOCK TYPE 5 messages. The SS transmits a PAGING TYPE 1 message, which includes an unmatched CN UE identity for idle mode, and an unmatched UTRAN UE identity for connected mode. The UE shall not change its state. The SS transmits a PAGING TYPE 1 message, which includes two unmatched identities and 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 and an INITIAL DIRECT TRANSFER 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	See specific message contents.
2		←	SYSTEM INFORMATION BLOCK TYPE 5	See specific message contents.
3		←	PAGING TYPE 1	The SS transmits the message, which includes only unmatched identities, and the UE does not change its state.
4		←	PAGING TYPE 1	The SS transmits the message, which includes a matched identity.
5		→	RRC CONNECTION REQUEST	
6		←	RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish an RRC connection.
7		→	RRC CONNECTION SETUP COMPLETE	
8		→	INITIAL DIRECT TRANSFER	

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 (Step 1) – for UEs supporting GSM-MAP core networks

Use the default message type found in clause 6.1 of TS 34.108, except for the following.

Information Element	Value/remark
CN domain system information	
- CN domain identity	PS
- CN domain specific DRX cycle length coefficient	8
- CN domain identity	CS
- CN domain specific DRX cycle length coefficient	6

SYSTEM INFORMATION TYPE 13 (Step 1) – for UEs supporting ANSI-41 core networks

Use the default message type found in clause 6.1 of TS 34.108, clause 6.1.

SYSTEM INFORMATION BLOCK TYPE 5 (Step 2)

Use the default message type found in clause 6.1 of TS 34.108, except for the following.

Information Element	Value/remark
PICH Info - Number of PI per frame	 36

PAGING TYPE 1 (Step 3)

Information Element	Value/remark
Message Type Paging record list - Paging record 1 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE Identity - IMSI - Paging record 2	 CN identity Terminating Call with one of the supported services A Registered Domain (PS Domain or CS Domain) IMSI Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the TEST USIM card.
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an arbitrary SRNC identity.
- S-RNTI	Set to an arbitrary 20-bit string.
- CN originated page to connected mode UE	Not Present
BCCH modification info	Not Present

PAGING TYPE 1 (Step 4)

For speech in CS:

Information Element	Value/remark
Message Type Paging record list - Paging record 1 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE Identity - IMSI - Paging record 2	 CN identity Terminating Call with one of the supported services A Registered Domain (PS Domain or CS Domain) IMSI Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the TEST USIM card.
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an arbitrary SRNC identity.
- S-RNTI	Set to an arbitrary 20-bit string.
- CN originated page to connected mode UE	Not Present
- Paging record 3 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE identity - IMSI (GSM-MAP) BCCH modification info	 CN identity ~~Terminating Conversational Call~~ Terminating Call with one of the supported services CS domain Set to the same octet string as in the IMSI stored in the USIM card Not Present

For packet in PS:

Information Element	Value/remark
Message Type Paging record list - Paging record 1 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE Identity - IMSI - Paging record 2	 CN identity Terminating Call with one of the supported services A Registered Domain (PS Domain or CS Domain) IMSI Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the TEST USIM card.
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an arbitrary SRNC identity.
- S-RNTI	Set to an arbitrary 20-bit string.
- CN originated page to connected mode UE	Not Present
- Paging record 3 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE identity - P-TMSI BCCH modification info	 CN identity ~~Terminating Interactive Call~~ Terminating Call with one of the supported services PS domain Use P-TMSI allocated by SS at initial attach. Not Present

RRC CONNECTION REQUEST (Step 5)

Information Element	Value/remark
Message type	
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the registered P-TMSI depending upon CN domain concerned.
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.

INITIAL DIRECT TRANSFER (Step 8) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
Message Type	
Integrity check info	Not present
CN domain identity	CS domain or PS domain (as specified by the SS in the PAGING TYPE 1 message of Step 4)
Intra Domain NAS Node Selector	
- CHOICE version	R99
-- CHOICE CN type	GSM-MAP
--- CHOICE Routing basis	IMSI (response to IMSI paging) in CS domain) P-TMSI (response to P-TMSI paging in PS Domain)
---- Routing parameter	If the IE "CN domain identity" is equal to "CS domain", bit string (10) consisting of DecimalToBinary [(IMSI div 10) mod 1000]. The first/ leftmost bit of the bit string contains the most significant bit of the result. If the IE "CN domain identity" is equal to "PS domain": The TMSI/ PTMSI consists of 4 octets (32bits). This can be represented by a string of bits numbered from b0 to b31, with bit b0 being the least significant. The "Routing parameter" is set to bits b14 through b23 of the TMSI/ PTMSI. The first/ leftmost/ most significant bit of the bit string contains bit b23 of the TMSI/ PTMSI.
--- Entered parameter	Not checked
NAS message	Not checked
START	Not checked
Measured results on RACH	Not checked

INITIAL DIRECT TRANSFER (Step 8) – for UEs supporting ANSI-41 core networks

Information Element	Value/remark
Message Type	
Integrity check info	Not present
CN domain identity	CS domain or PS domain (as specified by the SS in the PAGING TYPE 1 message of Step 3)
Intra Domain NAS Node Selector	
- CHOICE version	ANSI-41 : Bitstring(14), all bits set to 0
NAS message	Not checked
START	Not checked
Measured results on RACH	Not checked

8.1.1.9.5 Test requirement

After step 3 the UE shall not respond to the PAGING TYPE 1 message sent in step 3.

After step 4 the UE shall transmit an RRC CONNECTION REQUEST message on the uplink CCCH.

After step 6 the UE shall have an RRC connection based on dedicated physical channel resources and transmit an RRC CONNECTION SETUP COMPLETE message and an INITIAL DIRECT TRANSFER message on the uplink DCCH.

<< END OF MODIFIED SECTION >>

3GPP TSG-RAN5 Meeting #27
Bath, UK, 25th – 29th April

Tdoc ⌘R5-050545

CR-Form-v7.1

CHANGE REQUEST

⌘ **34.123-1** **CR** 1146 ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correcting initial conditions of Inter-RAT test cases 8.1.2.12 and 8.1.2.13
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	06/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	In the Inter-RAT RRC Connection Management test cases, the GSM cell is configured as per section 26 in the initial conditions. This doesn't simulate a real network scenario where R99 networks support GPRS cells. Inter-RAT test cases must simulate a GPRS cell in order to simulate real network conditions.
Summary of change:	⌘	In the initial conditions, a GPRS cell is configured based on the cell configuration in section 40 of 51.010.
Consequences if not approved:	⌘	Test as specified does not simulate a real network scenario.

Clauses affected:	⌘	8.1.2.12.4, 8.1.2.13.4

Y	N			
	X	Other core specifications	⌘	
X		Test specifications		34.123-3
	X	O&M Specifications		

Other specs affected: ⌘

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/specs/CR.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.

8.1.2.12.4 Method of test

Initial condition

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 clause ~~26.6.5.1~~40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9. The Inter-RAT Cell Info List of Cell 1 refers to Cell 9. The 3G Neighbour Cell Description List of Cell 9 refers to Cell 1.

UE: Idle state (state 2) as specified in clause 7.4 of TS 34.108

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.
- PS Supported yes/no
- Support of automatic PS attach procedure at switch on yes/no

<< End of changes to this section >>

<< next modified section >>

8.1.2.13.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN, the value of N300 is set to 1. Cell 9 is GSM. GSM 51.010 clause ~~26.6.5.1~~40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9. The Inter-RAT Cell Info List of Cell 1 refers to Cell 9. The 3G Neighbour Cell Description List of Cell 9 refers to Cell 1.

UE: Idle state (state 2) as specified in clause 7.4 of TS 34.108

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.
- PS Supported yes/no
- Support of automatic PS attach procedure at switch on yes/no

<< End of changes to this section >>

3GPP TSG RAN WG5 #27
Bath, England, 25 - 29 April, 2005

Tdoc ⌘ R5-050607

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1147** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to P4 RRC test case 8.1.3.9
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	13/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The value of the IE "TFCI Combining Indicator" in "Radio Link addition information" is marked as Not present in the specific message content "ACTIVE SET UPDATE" (Step 2).This parameter is a mandatory field with type Boolean.
Summary of change:	⌘	The value of the IE "TFCI combining indicator" is changed to 'FALSE' in the specific message content "ACTIVE SET UPDATE" (Step 2).
Consequences if not approved:	⌘	Prose will remain incorrect

Clauses affected:	⌘	8.1.3.9.4

Other specs affected: ⌘

Y	N	
	X	Other core specifications
X		Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘ No change to TTCN required

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

8.1.3.9 RRC Connection Release in CELL_DCH state (Network Authentication Failure): Success

8.1.3.9.1 Definition

8.1.3.9.2 Conformance requirement

1. TS 25.331

If the upper layers request the release of the RRC connection, the UE shall:

1> release all its radio resources;

1> enter idle mode;

1> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2;

1> if the UE was in CELL_DCH state prior to entering idle mode:

2> consider all cells that were in the active set prior to entering idle mode to be barred according to [4]; and

2> consider the barred cells as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

2. TS 24.008

Following a UMTS authentication challenge, the MS may reject the core network, on the grounds of an incorrect AUTN parameter (see 3GPP TS 33.102). This parameter contains two possible causes for authentication failure:

….

SQN failure:

If the MS considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, it shall send a AUTHENTICATION FAILURE message to the network, with the reject cause 'Synch failure' and a re-synchronization token AUTS provided by the SIM (see 3GPP TS 33.102). The MS shall then follow the procedure described in clause 4.3.2.6 (d) of TS 24.008.

….

Authentication failure (reject cause 'synch failure'):

The MS shall send an AUTHENTICATION FAILURE message, with reject cause 'synch failure,' to the network and start the timer T3216.

….

If the timer T3216 expires, then the MS shall behave as described in clause 4.3.2.6.1 of TS 24.008.

Reference

3GPP TS 25.331 clause 8.1.4a.

3GPP TS 24.008 clause 4.3.2.5.1, 4.3.2.6

8.1.3.9.3 Test purpose

To confirm that when the upper layers request the release of the RRC connection, the UE releases signalling radio bearer and its radio resources and goes back to idle mode.

To confirm that the UE enters idle mode, bars the cell for a period T_{barred} and hence performs cell-selection to another (non-barred) cell.

8.1.3.9.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1,2 and 3 are active.

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 8.1.3.9 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 8.1.3.9

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 Ec	dBm/3.84 MHz	-60	-60	-85	-62	-85	-65
PCCPCH RSCP	dBm	-60	-60	-85	-62	-85	-65

SS switches the downlink transmission power of the 3 cells to the columns "T1" in Table 8.1.3.9. UE transmits a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 and 3 according to IE "Intra-frequency event identity", which is set to '1a' for FDD mode and `1g` for TDD mode in the SYSTEM INFORMATION BLOCK TYPE 11. For FDD, in steps 2 and 3, after the MEASUREMENT REPORT message is received, the SS configures 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 which includes IE "Radio Link Addition Information", indicating the 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. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC.

The SS transmits a DOWNLINK DIRECT TRANSFER message. This message contains a NAS message (AUTHENTICATION REQUEST for CS domain or AUTHENTICATION AND CIPHERING REQUEST for PS domain) and an invalid SQN. The UE shall transmit an UPLINK DIRECT TRANSFER message using AM on DCCH. After SS acknowledges the UPLINK DIRECT TRANSFER message, SS shall wait for T3216 or T3320 to expire in the UE. The UE shall then deem that the network has failed the authentication check, release the RRC connection, enter idle mode, bar cell 1 and 2 and perform cell re- selection. Then SS wait for 5 s. SS transmits PAGING TYPE 1 message. The UE shall respond with RRC CONNECTION REQUEST message in cell 3. SS then transmit RRC CONNECTION REJECT message back to UE. SS then waits for T_{barred} to expire (22 minutes) before SS execute generic procedure C.1 in cell 1 to check that UE is in idle mode in cell 1.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		MEASUREMENT REPORT	See specific message contents for this message.
2	←		ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information" for cell 2. This step will be only applicable for FDD.
3	→		ACTIVE SET UPDATE COMPLETE	The UE adds the radio link in cell 2. This step will be only applicable for FDD.
4	←		DOWNLINK DIRECT TRANSFER	Depending on supported CN domain, AUTHENTICATION AND CIPHERING REQUEST message (PS domain) or AUTHENTICATION REQUEST (CS domain) message is embedded in DOWNLINK DIRECT TRANSFER message. An invalid SQN is provided in this message.
5	→		UPLINK DIRECT TRANSFER	After SS acknowledged this message, SS waits for T3216 or T3320 to expire.
6				The SS waits for 5s
7	←		PAGING TYPE 1	
8	→		RRC CONNECTION REQUEST	SS checks that the UE sends this message in cell 3
9	←		RRC CONNECTION REJECT	
10				SS waits 22 minutes for T_{barred} to expire.
11	←→		CALL C.1	SS execute this generic procedure in cell 1. If the test result of C.1 indicates that UE is in idle mode, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT REPORT (Step 1) (FDD)

Information Element	Value/remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Checked that this IE is absent
- 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	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1 of TS 34.108
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1 of TS 34.108
- 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	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108

MEASUREMENT REPORT (Step 1) (TDD)

Information Element	Value/remark
Message Type	
Integrity check info	

- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.1 (TDD)" in clause 6.1 of TS 34.108
- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.2 (TDD)" in clause 6.1 of TS 34.108
- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.3 (TDD)" in clause 6.1 of TS 34.108

- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- 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	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1g
- Cell measurement event results	
CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.2 (TDD)" in clause 6.1 of TS 34.108

ACTIVE SET UPDATE (Step 2) (FDD only)

The message to be used in this test is defined in TS 34.108, clause 9, 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	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	1
- Spreading factor	Refer to TS 34.108 clause 6.10.2.4 "Typical radio parameter sets"
- 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~~FALSE
- SCCPCH information for FACH	Not Present

ACTIVE SET UPDATE COMPLETE (Step 3) (FDD only)

Only the message type of this message is checked.

DOWNLINK DIRECT TRANSFER (Step 4)

Use the same message sub-type as found in TS 34.108 clause 9, with the following exceptions.

Information Element	Value/remark
CN domain identity NAS message	CS domain or PS domain AUTHENTICATION REQUEST (CS domain) or AUTHENTICATION AND CIPHERING REQUEST (PS domain) with an invalid SQN value.

UPLINK DIRECT TRANSFER (Step 5)

Information Element	Value/remark
Message Type Integrity check info - Message authentication code - RRC Message sequence number CN domain identity NAS message Measured results on RACH	 This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value. CS domain or PS domain AUTHENTICATION FAILURE(CS domain) or AUTHENTICATION AND CIPHERING FAILURE (PS domain) Not checked

8.1.3.9.5 Test requirement

At step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 2 the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4 the UE shall transmit an UPLINK DIRECT TRANSFER messages using AM on DCCH.

After step 7, the UE shall transmit RRC CONNECTION REQUEST message using TM RLC on CCCH in cell 3.

After step 10 the UE shall be in idle mode in cell 1.

3GPP RAN WG5 Meeting #27
Bath, England, 25-29 April, 2005

Tdoc ⌘R5-050609

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1148** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to MIB, PLMN and Cell Value Tag Value Definition to 8.1
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	10/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	To remove the definition of specific value for the MIB, PLMN and Cell value tag.
Summary of change:	⌘	Replaced the specific value for MIB, PLMN and Cell value tag with general definition based on TS 25.331
Consequences if not approved:	⌘	The prose will be incorrect and inconsistent with the TTCN.

Clauses affected:	⌘	Value sections, see change details.

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	No impact to TTCN as the TTCN is already implemented this way. This is part of a set of CRs, R5-050608, R5-050609, R5-050610, R5-050611

How to create CRs using this form:
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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.

8.1.1.10 Paging for Connection in connected mode (URA_PCH, multiple paging records)

8.1.1.10.1 Definition

8.1.1.10.2 Conformance requirement

A UE in idle mode, CELL_PCH state or URA_PCH state shall receive the paging information for all its monitored paging occasions. For an UE in idle mode, the paging occasions are specified in [25.304] and depend on the IE "CN domain specific DRX cycle length coefficient", as specified in subclause 8.6.3.1a. For a UE in CELL_PCH state or URA_PCH state, the paging occasions depend also on the IE "UTRAN DRX cycle length coefficient" and the IE "RRC State Indicator", as specified in subclauses 8.6.3.2 and 8.6.3.3 respectively.

When the UE receives a PAGING TYPE 1 message, it shall perform the actions as specified below.

:

If the UE is in connected mode, for each occurrence of the IE "Paging record" included in the message the UE shall:

1> if the IE "Used paging identity" is a UTRAN identity and if this U-RNTI is the same as the U-RNTI allocated to the UE:

2> if the optional IE "CN originated page to connected mode UE" is included:

3> indicate reception of paging; and

3> forward the IE "CN domain identity", the IE "Paging cause" and the IE "Paging record type identifier" to the upper layers.

2> otherwise:

3> perform a cell update procedure with cause "paging response" as specified in subclause 8.3.1.2.

2> ignore any other remaining IE "Paging record" that may be present in the message.

1> otherwise:

2> ignore that paging record.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.2, 8.3.1.7.

8.1.1.10.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message in which the IE "Used paging identity" is set to "UTRAN identity", and the UE takes the U-RNTI value assigned to it in the IE "U-RNTI".

8.1.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell. PICH is configured with “Number of PI per frame” set to 72.

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 SYSTEM INFORMATION BLOCK TYPE 6 messages with a modified PCH configuration. The SS then transmits a PAGING TYPE 1 message, which includes a matched IMSI, but the UE does not respond since it is in connected mode. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI but in a paging occasion not accrding to the DRX cycle of the UE. The UE does not reply. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI in a correct paging occasion. 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. The SS sends the UE back to URA_PCH state using CELL UPDATE CONFIRM and also modifies the UTRAN DRX cycle length for the UE. The SS then transmits a PAGING TYPE 1 message using the new paging occasions. The UE replies to this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SYSTEM INFORMATION BLOCK TYPE 6, MASTER INFORMATION BLOCK	See specific message contents
1a	←		PAGING TYPE 1	SS transmits the message including the IE "BCCH Modification Information", with the "Value Tag" as ~~2~~same as that in the MIB.
2	←		PAGING TYPE 1	The SS transmits the message that includes a matched CN UE identity, but the UE does not respond.
3	←		PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity but in a paging occasion not according to the DRX cycle of the UE.
4	←		PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity in the correct paging occasion.
5	→		CELL UPDATE	The UE enters the CELL_FACH state.
6	←		CELL UPDATE CONFIRM	See message content.
7	→		UTRAN MOBILITY INFORMATION CONFIRM	After transmitting this message, the UE returns to URA_PCH state and changes its UTRAN DRX cycle.
8	←		PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity, using a paging occasion which is included in the new DRX cycle, but not in the old DRX cycle.
9	→		CELL UPDATE	The UE enters the CELL_FACH state.
10	←		CELL UPDATE CONFIRM	See message content.
11	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 6 (Step 1)

Use the default message type found in clause 6.1 of TS 34.108, except for the following.

Information Element	Value/remark

- Secondary CCPCH info	
- CHOICE mode - Secondary scrambling code	FDD Not Present
- STTD indicator - Spreading factor	FALSE 64
- Code number - Pilot symbol existence	1 FALSE
- TFCI existence - Fixed or Flexible position	TRUE Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	4 bit
- Power offset information	Not Present
- CTFC information	1
- Power offset information	Not Present
- CTFC information	2
- Power offset information	Not Present
- CTFC information	3
- Power offset information	Not Present
- CTFC information	4
- Power offset information	Not Present
- CTFC information	5
- Power offset information	Not Present
- CTFC information	6
- Power offset information	Not Present
- CTFC information	7
- Power offset information	Not Present
- CTFC information	8
- FACH/PCH information	
- TFS	(PCH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	240
- Number of TB and TTI List	
- Number of Transport blocks	0
- 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	230
- CRC size	16 bit
- Transport Channel Identity	12 (for PCH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	168
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- Number of Transport blocks	2
- 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	220
- CRC size	16 bit
- Transport Channel Identity	13 (for FACH)

- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	360
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Turbo
- Rate matching attribute	130
- CRC size	16bit
- Transport Channel Identity	14 (for FACH)
- CTCH indicator	FALSE
PICH Info - CHOICE mode - Channelisation code - Number of PI per frame	 FDD 2 72
- STTD indicator	FALSE

MASTER INFORMATION BLOCK (Step 1)

Information Element	Value/remark
MIB Value tag	~~2~~A valid value (as defined in TS 25.331) that is different from the previous MIB.

PAGING TYPE 1 (STEP 1a)

Information Element	Value/remark
Message Type	
Paging record list	Not Present
BCCH modification info	
MIB Value Tag	~~2~~Same value as the MIB value tag in the MIB in step 1
BCCH Modification time	Not Present

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record 1	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	A Registered Domain (PS Domain or CS Domain)

- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card.
- Paging record 2	
- 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 (Steps 3, 4 and 8)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record 1	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	A Registered 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.
- Paging record 2	
- 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
- Paging record 3	
- 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

CELL UPDATE CONFIRM (Step 6)

Use the message sub-type in default message content defined in [9] (TS 34.108) Clause 9, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'
RRC State Indicator	URA_PCH
UTRAN DRX Cycle length coefficient	4

UTRAN MOBILITY INFORMATION CONFIRM (Step 7)

Only the message type is checked.

CELL UPDATE CONFIRM (Step 10)

Use the message sub-type in default message content defined in [9] (TS 34.108) Clause 9, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

8.1.1.10.5 Test requirement

After steps 2 and 3 the UE shall not respond to the paging.

After steps 4 and 8 the UE shall enter the CELL FACH state, and transmit CELL UPDATE message to initiate the cell updating procedure with the cell update cause set to "paging response".

After steps 6 and 10 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message.

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

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists).

Upon initiation of the procedure, the UE shall:

…

1> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

1> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to TS 25.304;

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

….

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

1> set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;

1> set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

…

The UE shall not include the IE "UE Specific Behaviour Information 1 idle".

….

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

1> stop timer T300, and act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified otherwise in the following:

2> if the UE, according to TS 25.331 subclause 8.6.3.3, will be in the CELL_FACH state at the conclusion of this procedure:

…

1> if the UE, according to TS 25.331 subclause 8.6.3.3, will be in the CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronization procedure A as specified in TS 25.214;

2> enter UTRA RRC connected mode, in a state according to TS 25.331 subclause 8.6.3.3;

1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per TS 25.331 subclause 8.6.3.3, with the contents set as specified below:

2> set the IE "RRC transaction identifier" to:

3> the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

…

2> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then

2> include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

2> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then

2> include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

1> consider the procedure to be successful;

And the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.2, 8.1.3.3 and 8.1.3.6

8.1.2.1.3 Test purpose

1. To confirm that the UE leaves the Idle Mode and correctly establishes signalling radio bearers on the DCCH.
2. To confirm that the UE indicates the requested UE radio access capabilities and UE system specific capabilities (may be used by UTRAN e.g. to configure inter RAT- measurements).
3. To confirm that the UE does not include the IE "UE Specific Behaviour Information 1 idle" in the RRC CONNECTION REQUEST message.

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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	By outgoing call operation. See specific message contents.
2	←		RRC CONNECTION SETUP	This message is not addressed to the UE. See specific message contents.
3	→		RRC CONNECTION REQUEST	UE shall re-transmit the request message again after a time out of T300 from step 1.
3a				SS checks IE "UE Specific Behaviour Information 1 idle" is not included in received RRC CONNECTION REQUEST message.
4	←		RRC CONNECTION SETUP	See specific message contents.
5				The UE configures the layer 2 and layer 1.
6	→		RRC CONNECTION SETUP COMPLETE	See specific message contents.
7	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

System Information Block type 11 (FDD)

Use the default system information block with the same type specified in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Intra-frequency reporting quantity for RACH Reporting	
- SFN-SFN observed time difference reporting indicator	No report
- CHOICE *mode*	
- FDD	
- Reporting quantity	CPICH Ec/N0
- Maximum number of reported cells on RACH	current cell

System Information Block type 11 (TDD)

Use the default system information block with the same type specified in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Intra-frequency reporting quantity for RACH Reporting	
- SFN-SFN observed time difference reporting indicator	No report
- CHOICE *mode*	TDD
- Reporting quantity list	
- Reporting quantity	P-CCPCH RSCP
- Maximum number of reported cells on RACH	current cell

RRC CONNECTION REQUEST (Step 1) (FDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
UE Specific Behaviour Information 1 idle	Check if this IE is absent.
Measured results on RACH	Check to see if set in accordance with the IE "Intra-frequency reporting quantity for RACH Reporting" included in SYSTEM INFORMATION BLOCK Type 11
- Measurement result for current cell	
- CHOICE mode	
- FDD	
- CHOICE measurement quantity	
- CPICH Ec/N0	The actual reported value is not checked

RRC CONNECTION REQUEST (Step 1) (TDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH	Check to see if set in accordance with the IE "Intra-frequency reporting quantity for RACH Reporting" included in SYSTEM INFORMATION BLOCK Type 11
- Measurement result for current cell	
- CHOICE mode	TDD
- CHOICE measurement quantity	
- P-CCPCH RSCP	The actual reported value is not checked

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	Set to unmatched identity (incorrect IMSI)

RRC CONNECTION SETUP (Step 4)

Use the default message with the same message type and covering the scenario used in this test (Transition to CELL_DCH) specified in clause 9 of TS 34.108.

RRC CONNECTION SETUP COMPLETE (Step 6)

Use the default message with the same message type specified 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.

8.1.2.1.5 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 3 the SS shall check IE "UE Specific Behaviour Information 1 idle" isn't included in received RRC CONNECTION REQUEST message.

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

If the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

if expiry of timer T300 occurs:

the UE shall:

1> check the value of V300; and

2> if V300 is equal to or smaller than N300:

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

3> submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message.

2> if V300 is greater than N300:

…

Reference

3GPP TS 25.331 clause 8.1.3.5.

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. SCCPCH configuration as specified in 6.1.1 of TS 34.108.

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.

NOTE: This test requires that N300 is bigger than 0, which is the case (see default contents of SIB 1, specified in TS 34.108). Expiry of timer T300 is verified only for N300 values exceeding 1.

Test Procedure

Before the test starts, SYSTEM INFORMATION BLOCK TYPE 1, SYSTEM INFORMATION BLOCK TYPE 5 and SYSTEM INFORMATION BLOCK TYPE 7 message are 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 an RRC CONNECTION SETUP message containing an IE “RRC state indicator” set to ‘CELL_PCH’ as 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. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH. See specific message contents.
1a				SS waits 5s (to ensure that the UE waits for the new value tag before re-reading system information)
1b	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 SYSTEM INFORMATION BLOCK TYPE 5 SYSTEM INFORMATION BLOCK TYPE 7	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 , SIB TYPE 5 and SIB 7messages. See specific message contents.
1c				SS waits 5s (to ensure that the UE has time to read the new system information)
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	See the clause 9 in TS 34.108 on default message content
4				SS increments K.
5				SS checks to see if K is equal to N300. If so, goes to step 6. Else, continues to execute step 3.
6	←		RRC CONNECTION SETUP	IE “RRC state indicator” is set to ‘CELL_PCH’.
7	→		RRC CONNECTION REQUEST	See specific message contents.

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	See clause 9 in TS 34.108 on default message content

Specific Message Contents

PAGING TYPE 1 (Step 1)

Information Element	Value/remark
Message Type	
Paging record list	Not present
BCCH modification info	
- MIB Value Tag	Set to (Current MIB value tag + 1)
- BCCH Modification time	Not Present

SYSTEM INFORMATION TYPE 1 (Step 1b)

Use the default parameter values for the system information block with the same type specified in clause 6.1.0b of TS 34.108, with the following exceptions:

- UE Timers and constants in idle mode	
-T300	2000 milliseconds
-N300	3
-T312	10 seconds
- N312	1

SYSTEM INFORMATION TYPE 5 (Step 1b) - (FDD)

Use the default parameter values for the system information block with the same type specified in clause 6.1.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- SIB6 indicator	FALSE
- PICH Power offset	-5 dB
- CHOICE Mode	FDD
- AICH Power offset	-5 dB
- Primary CCPCH info	Not present
- PRACH system information list	
- PRACH system information	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B

Information Element	Value/remark
- Available SF	64
- Preamble scrambling code number	0
- Puncturing Limit	1.00
- 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	Configured
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	Configured
- 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 reconfiguration
- TFCS addition information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor

Information Element	Value/remark
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	11
- Gain factor ßd	15
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.

Information Element	Value/remark
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- 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	4
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	

Information Element	Value/remark
- 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	1.00
- Available Sub Channel number	'1111 1111 1111'B
- Transport Channel Identity	31
- 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	Configured
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	Configured
- 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	

Information Element	Value/remark
- CHOICE TFCS representation	Complete reconfiguration
- TFCS addition information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Reference TFC ID - CHOICE Mode - Power offset Pp-m	0 FDD 0 dB
- CTFC information	1
- Reference TFC ID	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	11
- Gain factor ßd	15
- Reference TFC ID	0
- CHOICE Mode - Power offset Pp-m	FDD 0dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.

Information Element	Value/remark
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- 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

Information Element	Value/remark
- PRACH power offset	
- Power Ramp Step	3dB
- Preamble Retrans Max	4
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Channelisation code	13
- STTD indicator	FALSE
- AICH transmission timing	0

SYSTEM INFORMATION TYPE 5 (Step 1b) – 3.84 Mcps TDD

Use the default parameter values for the system information block with the same type specified in clause 6.1.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- 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

Information Element	Value/remark
- 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

Information Element	Value/remark
- 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)

Information Element	Value/remark
- 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

Information Element	Value/remark
- 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	

Information Element	Value/remark
- 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 1b) – 1.28 Mcps TDD

Use the default parameter values for the system information block with the same type specified in clause 6.1.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- PRACH system information	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	TDD

Information Element	Value/remark
- 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	

Information Element	Value/remark
- 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)

Information Element	Value/remark
- 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)

Information Element	Value/remark
- 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

Information Element	Value/remark
- 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)

Information Element	Value/remark
- 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)

Information Element	Value/remark
- 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

Contents of System Information Block type 7 (FDD) – (Step 1b)

Use the default parameter values for the system information block with the same type specified in clause 6.1.0b of TS 34.108, with the following exceptions:

- PRACHs listed in system information block type5	
- Dynamic persistence level	(2,2)
- PRACHs listed in system information block type6	Not present

RRC CONNECTION SETUP (Step 6)

SS sends a message containing an invalid rrc State Indicator

Information Element	Value/remark
RRC state indicator	CELL_PCH

RRC CONNECTION REQUEST (Step 7)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Protocol Error Indicator	Check to see if set to TRUE

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

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists).

Upon initiation of the procedure, the UE shall:

1> set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to TS 25.331 subclause 8.5.1;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to TS 25.304;

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

1> set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

…

1> if the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

1> if cell re-selection or expiry of timer T300 occurs:

the UE shall:

1> check the value of V300; and

2> if V300 is equal to or smaller than N300:

…

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

…

3> submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message.

…

2> if V300 is greater than N300:

3> enter idle mode.

3> consider the procedure to be unsuccessful;

3> Other actions the UE shall perform when entering idle mode from connected mode are specified in TS 25.331 subclause 8.5.2;

3> the procedure ends.

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. A Class A UE in manual mode will execute this test case on the CS domain.

Specific Message Contents

SYSTEM INFORMATION TYPE 1

Use the default parameter values for the system information block with the same type specified in clause 6.1.0b of TS 34.108, with the following exceptions:

- UE Timers and constants in idle mode	
-T300	2000 milliseconds

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. SS calls for generic procedure C.1 to check that UE is in Idle Mode 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 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 go back to idle state. SS waits for 5s.
6	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it 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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

1> if the IE "wait time" <> '0'; and

1> if the IE "frequency info" is present and:

2> if V300 is equal to or smaller than N300:

3> initiate cell selection on the designated UTRA carrier;

3> after having selected and camped on a cell:

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> transmit an RRC CONNECTION REQUEST message on the uplink CCCH;

4> reset counter V300;

4> start timer T300 when the MAC layer indicates success or failure in transmitting the message;

4> disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;

3> if a cell selection on the designated carrier fails:

4> wait for the time stated in the IE "wait time";

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

4> increment counter V300;

4> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…

1> If the IEs "frequency info" not present……:

2> if V300 is equal to or smaller than N300:

3> wait at least the time stated in the IE "wait time";

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.2;

3> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

3> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.9.

8.1.2.4.3 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 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 4 are active and suitable for camping, but cell 1 is transmitted using a larger power. Cell 1 and cell 4 are being transmitted from different 2 UARFCNs. The transmission power of cell 4 is 12 dB smaller than cell 1.

Table 8.1.2.4

Parameter	Unit	Cell 1	Cell 4
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec (FDD)	dBm/ 3.84 MHz	-60	-72
P-CCPCH (TDD)	dBm	-60	-72

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 4 is available. SS then waits for RRC CONNECTION REQUEST message on the uplink CCCH of cell 4. 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 4, 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.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

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 4. Note: this wait time would apply after failure of the inter frequency cell re- selection, which is not verified in this test case
3				SS waits for a period of time sufficient for UE to reselect to cell 4. 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 4. 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, step 4 and step 6)

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
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 2) - FDD

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
- Frequency Info	
- CHOICE mode	FDD
- UARFCN uplink (Nu)	Not present
- UARFCN downlink (Nd)	Set to the UARFCN for uplink carrier of cell 4

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 REJECT (Step 5)

Use the same message type found in clause 9 of TS 34.108, 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 4. UE shall trigger the start of RRC connection establishment by transmitting RRC CONNECTION REQUEST. The establishment cause shall be originating call.

After step 5 the UE shall observe the period specified in IE "wait time" of the 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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

1> if the IE "wait time" <> '0'; and

1> if the IE "frequency info" is present and:

2> if V300 is equal to or smaller than N300:

3> initiate cell selection on the designated UTRA carrier;

3> after having selected and camped on a cell:

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> transmit an RRC CONNECTION REQUEST message on the uplink CCCH;

4> reset counter V300;

4> start timer T300 when the MAC layer indicates success or failure in transmitting the message;

4> disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;

3> if a cell selection on the designated carrier fails:

4> wait for the time stated in the IE "wait time";

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

4> increment counter V300;

4> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…

1> If the IEs "frequency info" not present……:

2> if V300 is equal to or smaller than N300:

3> wait at least the time stated in the IE "wait time";

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.2;

3> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

3> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.9.

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. SS calls for generic procedure C.1 to check that UE is in Idle Mode 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. SS waits for 5s.
7	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it 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
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 3)

Use the same message type found in TS 34.108 clause 9, 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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

if expiry of timer T300 occurs:

the UE shall:

1> check the value of V300; and

2> if V300 is equal to or smaller than N300:

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

3> submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message.

2> if V300 is greater than N300:

…

Reference

3GPP TS 25.331 clause 8.1.3.9.

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
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 inclause 9 of TS 34.108, with the following exception.

Information Element	Value/remark

Initial UE Identity	Set to the same type as in RRC CONNECTION REQUEST message (step 1) but with a different value.

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 clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity Reject Cause Wait time	Same as the type and value defined in RRC CONNECTION REQUEST message (step 5) Congestion 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

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists).

Upon initiation of the procedure, the UE shall:

…

1> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

1> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to TS 25.304;

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

….

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

1> set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;

1> set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

…

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

1> stop timer T300, and act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified otherwise in the following:

2> if the UE, according to TS 25.331 subclause 8.6.3.3, will be in the CELL_FACH state at the conclusion of this procedure:

3> if the IE "Frequency info" is included:

4> select a suitable UTRA cell according to TS 25.304 on that frequency;

3> enter UTRA RRC connected mode;

3> select PRACH according to TS 25.331 subclause 8.5.17;

3> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.

1> if the UE, according to subclause 8.6.3.3, will be in the CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronization procedure as specified in TS 25.214 (FDD) or TS 25.224 (TDD);

2> enter UTRA RRC connected mode, in a state according to TS 25.331 subclause 8.6.3.3;

1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per TS 25.331 subclause 8.6.3.3, with the contents set as specified below:

2> set the IE "RRC transaction identifier" to:

3> the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

….

2> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then

2> include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

2> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then

2> include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

1> if the UE has entered CELL_FACH state:

2> start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1.

….

1> consider the procedure to be successful;

And the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.2, 8.1.3.3 and 8.1.3.6.

8.1.2.7.3 Test Purpose

1. To confirm that the UE is able to enter CELL_FACH state and setup signalling radio bearers using common physical channels.
2. To confirm that the UE indicates the requested UE radio access capabilities (used by UTRAN to decide which RAB to establish) and UE system specific capabilities (may be used by UTRAN to configure inter RAT-measurements).

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. SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

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. See specific message contents.
2	←		RRC CONNECTION SETUP	See specific message contents.
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. See specific message contents. FDD or TDD
5	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

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
Establishment Cause	Originating Conversational Call or Originating Interactive Call or Originating Background Call or Originating Streaming Call

RRC CONNECTION SETUP (FDD)

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 TS 34.108, clause 9 with the following exception:

Information Element	Value/remark
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	gsm

RRC CONNECTION SETUP (3.84 Mcps TDD)

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 TS 34.108, clause 9 with the following exception:

Information Element	Value/remark
Capability update requirement	
UE radio access FDD capability update requirement	FALSE
UE radio access TDD capability update requirement	TRUE
System specific capability update requirement list	gsm

RRC CONNECTION SETUP (1.28 Mcps TDD)

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 TS 34.108, clause 9 with the following exception:

Information Element	Value/remark
Capability update requirement	
UE radio access FDD capability update requirement	FALSE
UE radio access3.84 Mcps TDD capability update requirement	FALSE
UE radio access 1.28 Mcps TDD capability update requirement	TRUE
System specific capability update requirement list	gsm

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 Failure after Invalid configuration

8.1.2.9.1 Definition

8.1.2.9.2 Conformance requirement

If the UE failed to establish, per TS 25.331 subclause 8.5.4, the physical channel(s) indicated in the RRC CONNECTION SETUP message.

After having received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY.

Before the RRC CONNECTION SETUP COMPLETE message is delivered to lower layers for transmission,

the UE shall:

1> clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> check the value of V300, and:

2> if V300 is equal to or smaller than N300:

3> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

3> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

3> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

3> increment counter V300; and

3> restart timer T300 when the MAC layer indicates success or failure in transmitting the message.

2> if V300 is greater than N300:

…

If the UE receives an RRC CONNECTION SETUP message which contains an IE "Initial UE identity" with a value which is identical to the value of the variable INITIAL_UE_IDENTITY; and

the variable INVALID_CONFIGURATION becomes set to TRUE due to the received RRC CONNECTION SETUP message:

the UE shall:

1> clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS and proceed as below;

1> if V300 is equal to or smaller than N300:

2> set the variable PROTOCOL_ERROR_INDICATOR to TRUE;

2> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

2> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13; and

2> apply the given Access Service Class when accessing the RACH;

2> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

2> increment counter V300; and

2> restart timer T300 when the MAC layer indicates success or failure in transmitting the message.

1> if V300 is greater than N300:

…

Reference

3GPP TS 25.331 clause 8.1.3.

8.1.2.9.3 Test purpose

1. 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.

2. 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. A Class A UE in manual mode will execute this test case on the CS domain.

Test Procedure

Before the test starts,SYSTEM INFORMATION BLOCK TYPE 1 is modified and this modification is notified to the UE. 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. This cycle is repeated until K reaches N300+1. When K is equal to N300+1, the SS again transmits an RRC CONNECTION SETUP message including an invalid configuration. Upon receiving this message the UE shall not send another RRC CONNECTION REQUEST message.

Next the SS re-initialises the internal counter K to value = 0, after which the operator attempts to make another outgoing call. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH. SS increments K every time such a message is received. 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+1. When K is equal to N300+1, 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		
0		←	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. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH. See specific message contents.
				SS waits 5s (to ensure that the UE waits for the new value tag before re-reading system information)
0a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 messages. See specific message contents.
				SS waits 5s (to ensure that the UE has time to read the new system information)
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	See specific message contents.
2a				SS increments K by 1 for every RRC CONNECTION REQUEST message received in step 2
2b		←	RRC CONNECTION SETUP	See specific message contents.
3				SS checks to see if K is equal to N300+1. If so, goes to step 3a. Else, continues to execute step 2.

3a			SS waits to verify that the UE does not send any further RRC CONNECTION REQUEST message
3b			SS re-initialises counter K to 0. Operator is asked to make another outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
3c	→	RRC CONNECTION REQUEST	See specific message contents.
3d			SS increments K by 1 for every RRC CONNECTION REQUEST message received in step 3c
3e			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	Use the default message with the same message sub-type specified in clause 9 in TS 34.108. SS does not configure the physical channel.
5			The next step is step 3c.
6	←	RRC CONNECTION SETUP	Use the default message with the same message sub-type specified in clause 9 in TS 34.108. SS configures the physical channel.
7			The UE configures the layer 1 and layer 2.
8	→	RRC CONNECTION SETUP COMPLETE	Use the default message with the same message sub-type specified in clause 9 in TS 34.108.

Specific Message Contents

PAGING TYPE 1 (Step 0)

Information Element	Value/remark
Message Type	
Paging record list	Not Present
BCCH modification info	
- MIB Value Tag	Set to (Current MIB value tag + 1)
- BCCH Modification time	Not Present

SYSTEM INFORMATION TYPE 1 (Step 0a)

Use the default parameter values for the system information block with the same type specified in clause 6.1.0b of TS 34.108, with the following exceptions:

- UE Timers and constants in idle mode	
-T300	2000 milliseconds
-N300	3
-T312	10 seconds
- N312	1

RRC CONNECTION REQUEST (Step 2 & step 3c, K=0)

The same message sub-type found in clause 9 of TS 34.108 applies, 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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call

RRC CONNECTION REQUEST (Step 2 & step 3c, K>0)

The same message sub-type found in clause 9 of TS 34.108 applies, 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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call
Protocol error indicator	Not Checked

RRC CONNECTION SETUP (Step 2b)

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

8.1.2.9.5 Test requirement

After step 3a the UE shall not send any further RRC CONNECTION REQUEST message.

After step 8 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection.

8.1.2.10 RRC connection establishment in CELL_DCH on another frequency

8.1.2.10.1 Definition

8.1.2.10.2 Conformance requirement

1. The UE shall, in the transmitted RRC CONNECTION REQUEST message:

   1> set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;

   1> set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

   1> set the IE "Protocol error indicator" to the value of the variable PROTOCOL_ERROR_INDICATOR;

   1> include a measurement report in the IE "Measured results on RACH", as specified in 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; and

   1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported; and

   1> take care that the maximum allowed message size is not exceeded when forming the IE "Measured results on RACH".

   ….

2. The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

   …

If the values are identical, the UE shall:

   …

   1> if the UE, according to subclause 8.6.3.3, will be in the CELL_DCH state at the conclusion of this procedure:

      2> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).

Reference

3GPP TS 25.331 clauses 8.1.3.3, 8.1.3.6

8.1.2.10.3 Test Purpose

To confirm that the UE manages to establish an RRC CONNECTION on another frequency when so required by SS in the RRC CONNECTION SETUP message.

8.1.2.10.4 Method of test

Initial condition

System simulator: 2 cells – Cell 1 on UARFCN 1 and Cell 4 on UARFCN 4.

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 state shall be "Registered idle mode on CS/PS" (state 7).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
SIB12 indicator	FALSE
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency reporting quantity for RACH reporting	
- SFN-SFN observed time difference reporting indicator	No report
- CHOICE mode	FDD
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current Cell
- Reporting information for state CELL_DCH	Not present

System Information Block type 11 (TDD)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to table 6.1 of TS34.108 for Cell 4
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	Reference clause 6.1,TS34.108,Default settings for cell 4
- Cell parameters ID	Reference clause 6.1,TS34.108,Default settings for cell 4
- Primary CPICH TX power	Not present
- Timeslot list	Not present

- Cell Selection and Re-selection Info	Not present For neigbouring cell, if HCS is not used and all the parameters in cell selection and re-selection info are Default value, this IE is absent.
- Qoffset1$_{s,n}$	0dB
- Maximum allowed UL TX power	Reference to table 6.1.6, TS 34.108
- HCS neighbouring cell information	Not present
- CHOICE mode	TDD
- Qrxlevmin	Reference to table 6.1.6, TS 34.108
- Cells for measurement	Not present

Test procedure

The UE is initially in idle mode and is camping on cell 1. SIB 11 is broadcast in cell 1.

SS prompts the operator to make an outgoing call of a supported traffic class. The UE shall transmit an RRC CONNECTION REQUEST on the CCCH, and SS replies with the RRC CONNECTION SETUP, in which the IEs are set as described below. The UE shall send the RRC CONNECTION SETUP COMPLETE back to SS in cell 4 on the DPCH described in the RRC CONNECTION SET UP messsage received from the SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	By outgoing call operation
2	←		RRC CONNECTION SETUP	Indicating frequency of cell 4 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 4 for FDD.
3				The UE configures the layer 2 and layer 1.
4	→		RRC CONNECTION SETUP COMPLETE	This message is sent to SS on the frequency indicated in the RRC CONNECTION SETUP message
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content

All messages indicated below shall use the same content as found in TS 34.108 clause 6.1 with the following exceptions:

RRC CONNECTION REQUEST (Step 1) (FDD)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Measured results on RACH	Check that the Ec/No for the cell 1 is reported.

RRC CONNECTION REQUEST (Step 1) (TDD)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Measured results on RACH	Check that the P-CCPCH RSCP for the cell 1 is reported.

RRC CONNECTION SETUP (Step 2) (FDD)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Not present
- UARFCN downlink(Nd)	UARFCN downlink of cell 4
Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	 Set to same code as used for cell 4

RRC CONNECTION SETUP (Step 2) (TDD)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Frequency info - UARFCN(Nt)	 UARFCN of the cell 4

8.1.2.10.5 Test requirement

In step 4, the UE shall send the RRC CONNECTION SETUP COMPLETE message on the frequency indicated in the RRC CONNECTION SETUP message.

8.1.2.11 RRC Connection Establishment in FACH state (Frequency band modification): Success

8.1.2.11.1 Definition

8.1.2.11.2 Conformance requirement

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the UE storing "Initial UE identity".

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified otherwise in the following:

2> if the UE, according to subclause 8.6.3.3, will be in the CELL_FACH state at the conclusion of this procedure:

3> if the IE "Frequency info" is included:

4> select a suitable UTRA cell according to TS25.304 on that frequency;

3> enter UTRA RRC connected mode;

3> select PRACH according to TS25.331 subclause 8.5.17;

3> select Secondary CCPCH according to TS5.331 subclause 8.5.19;

3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.

1> if the UE, according to subclause 8.6.3.3, will be in the CELL_DCH state at the conclusion of this procedure:

….

2> enter UTRA RRC connected mode, in a state according to TS25.331 subclause 8.6.3.3;

1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per TS25.331 subclause 8.6.3.3, with the contents set as specified below:

….

And the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.6.

8.1.2.11.3 Test purpose

To confirm that the UE enters to CELL_FACH state and correctly establishes signalling radio bearers using common physical channels of a cell within the frequency band specified by SS in RRC CONNECTION SETUP message.

8.1.2.11.4 Method of test

Initial Condition

System Simulator: 2 cells–Cells 1 is active and cell 6 is inactive.

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.

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- Intra-frequency reporting quantity for RACH Reporting	
- SFN-SFN observed time difference reporting indicator	No report
- CHOICE *mode*	
- FDD	
- Reporting quantity	CPICH Ec/N0
- Maximum number of reported cells on RACH	current cell

System Information Block type 11 (TDD)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- Intra-frequency reporting quantity for RACH Reporting	
-SFN-SFN observed time difference reporting indicator	No report
- CHOICE mode	TDD
- CHOICE measurement quantity	PCCPCH RSCP
- Maximum number of reported cells on RACH	current cell

Test Procedure

Table 8.1.2.11

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec (FDD)	dBm/ 3.84 MHz	-55	-72	Off	-72
P-CCPCH RSCP (TDD)	dBm	-55	-72	Off	-72

Table 8.1.2.11 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 Idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.2.11. The SS switches its downlink transmission power settings to columns "T1" and 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. The SS then transmits an RRC CONNECTION SETUP message containing an IE "frequency info" IE "Frequency info" set to uplink/downlink UARFCN as used for cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6 for FDD mode, and UARFCN as used for cell 6 and IE "Primary CCPCH RSCP info" set as assigned in cell 6 for TDD mode. The SS monitors all uplink RACH channels of cell 6.The UE transmitting an RRC CONNECTION SETUP COMPLETE message on the DCCH (mapped onto RACH) of cell 6.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in Idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.2.11.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.2.11.
3	→		RRC CONNECTION REQUEST	Operator makes an outgoing call. The UE shall transmit this message, indicating the proper establishment cause.
4	←		RRC CONNECTION SETUP	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6 for FDD mode, and IE "Primary CCPCH RSCP info" set as assigned in cell 6 for TDD mode.
5	→		RRC CONNECTION SETUP COMPLETE	UE shall send this message on the DCCH, carried by the assigned PRACH resources in cell 6.

Specific Message Content

RRC CONNECTION REQUEST (Step 3) (FDD)

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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call
Measured results on RACH	Check to see if set in accordance with the IE "Intra-frequency reporting quantity for RACH Reporting" included in SYSTEM INFORMATION BLOCK Type 11
- Measurement result for current cell - CHOICE mode - FDD - CHOICE measurement quantity - CPICH Ec/N0	The actual reported value is not checked

RRC CONNECTION REQUEST (Step 3) (TDD)

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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call

Measured results on RACH	Check to see if set in accordance with the IE "Intra-frequency reporting quantity for RACH Reporting" included in SYSTEM INFORMATION BLOCK Type 11
- Measurement result for current cell	
- CHOICE mode	TDD
- CHOICE measurement quantity	
- P-CCPCH RSCP	The actual reported value is not checked

RRC CONNECTION SETUP (Step 4) (FDD)

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 [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd) Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	 Not Present Same downlink UARFCN as used for cell 6 Set to same code as used for cell 6

RRC CONNECTION SETUP (Step 4) (TDD)

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 [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info - UARFCN (Nt) Downlink information for each radio links - Primary CCPCH info - Cell parameters ID	 Same UARFCN as used for cell 6 As used for cell 6

RRC CONNECTION SETUP COMPLETE (Step 5)

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.

8.1.2.11.5 Test requirement

After step 5 the UE shall transmit RRC CONNECTION SETUP COMPLETE message on the uplink DCCH in cell 6.

8.1.2.12 RRC Connection Establishment: Reject with interRATInfo is set to GSM

8.1.2.12.1 Definition

8.1.2.12.2 Conformance requirement

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall:

1> stop timer T300; and

1> clear the entry for the RRC CONNECTION REJECT message in the table "Accepted transactions" in the variable TRANSACTIONS;

...

1> if the IE "inter-RAT info" is present and:

2> if V300 is equal to or smaller than N300:

3> select a suitable cell belonging to the selected PLMN or any PLMN indicated to be equivalent to that PLMN in the designated RAT;

3> after having selected and camped on a suitable cell on the designated RAT:

4> disable cell reselection to the original RAT until the time stated in the IE " wait time" has elapsed.

8.1.2.12.3 Test Purpose

To verify that the UE shall select the GSM cell when RRC Connection Reject with Inter-RAT info set to GSM is received in response to RRC connection request.

Reference

3GPP TS 25.331, section 8.1.3.9

8.1.2.12.4 Method of test

Initial condition

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 9. The Inter-RAT Cell Info List of Cell 1 refers to Cell 9. The 3G Neighbour Cell Description List of Cell 9 refers to Cell 1.

UE: Idle state (state 2) as specified in clause 7.4 of TS 34.108

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,

- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.
- PS Supported yes/no

- Support of automatic PS attach procedure at switch on yes/no

Test procedure

The UE transmits an RRC CONNECTION REQUEST message for making an MO call. After the SS receives this message, it transmits an RRC CONNECTION REJECT message with interRATInfo set to "GSM" and wait time set to 10 seconds. UE then selects GSM cell specified in SIB11 and sends a CHANNEL REQUEST for making an MO call. RR connection is successfully established. Thereafter an MO call is established in the GSM cell.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Prompt the operator to make an outgoing call.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION REJECT	See specific message contents.
4	UE			UE selects the GSM cell specified in the SIB11.
5	→		CHANNEL REQUEST	UE requests for RR connection to establish the MO call.
6	←		IMMEDIATE ASSIGNMENT	RR connection is established. Thereafter UE proceeds with the MO call establishment. SS completes the call establishment procedure.
7	SS			It is verified that the MO call is successfully established by sending a STATUS ENQUIRY message. The UE shall respond with a STATUS message indicating that it is in state U10.

Specific message contents

RRC CONNECTION REJECT in step 4:

Wait time	10 seconds
Redirectioninfo	
InterRATInfo	GSM

8.1.2.12.5 Test requirement

1) At step 5, UE should respond on GSM cell.

2) At step 7, UE should be in CC state U10 in the GSM cell.

8.1.2.13 RRC Connection Establishment: Reject with InterRATInfo is set to GSM and selection to the designated system fails

8.1.2.13.1 Definition

8.1.2.13.2 Conformance requirement

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall:

1> stop timer T300; and

1> clear the entry for the RRC CONNECTION REJECT message in the table "Accepted transactions" in the variable TRANSACTIONS;

...

1> if the IE "inter-RAT info" is present and:

2> if V300 is equal to or smaller than N300:

3> if no suitable cell in the designated RAT is found:

4> wait at least the time stated in the IE "wait time";

4> set CFN in relation to SFN of current cell according to subclause 8.5.15;

4> set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.2.

4> perform the mapping of the Access Class to an Access Service Class as specified in subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

4> increment counter V300;

4> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

....

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

8.1.2.13.3 Test Purpose

To verify that the UE upon receiving RRC Connection Reject with Inter-RAT info set to GSM and failing to select the designated GSM system, shall reselect UTRAN cell only after the wait time specified in RRC Connection Reject. The UE shall then continue with the RRC CONNECTION establishment procedure.

Reference

3GPP TS 25.331, section 8.1.3.9

8.1.2.13.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN, the value of N300 is set to 1. Cell 9 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 9. The Inter-RAT Cell Info List of Cell 1 refers to Cell 9. The 3G Neighbour Cell Description List of Cell 9 refers to Cell 1.

UE: Idle state (state 2) as specified in clause 7.4 of TS 34.108

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.
- PS Supported yes/no
- Support of automatic PS attach procedure at switch on yes/no

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 with interRATInfo set to “GSM” and wait time set to 10 seconds. The GSM cell is switched off, therefore UE fails to select the GSM cell. UE reselects UTRAN cell only after waiting for duration specified in wait time. It then retransmits RRC CONNECTION REQUEST.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Prompt the operator to make an outgoing call.
2	→		RRC CONNECTION REQUEST	Shall be sent on CCCH and contain the correct establishment cause.
3	←		RRC CONNECTION REJECT	See specific message contents.
4				Cell 9 is switched off
5	→		RRC CONNECTION REQUEST	SS verifies that RRC connection is received only after wait time.
6	←		RRC CONNECTION REJECT	SS sends the message to bring the UE to idle mode.

Specific message contents

RRC CONNECTION REJECT in step 3:

Wait time	10 seconds
Redirectioninfo	
InterRATInfo	GSM

8.1.2.13.5 Test requirement

1) At step 5, RRC connection request is received after wait time.

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 clause 8.5.2 when entering idle mode;
  - and the procedure ends.

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.

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, on reception of (CM) service request message from the UE, the SS will Send CM Service Reject message (for state 6-1) or Service Reject message (for state 6-3) to complete the (CM) service Request procedure. After the UE is brought into the stable state, 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 UE re-transmit this message at each expiry of T308 timer and if N308+1 RRC CONNECTION RELEASE COMPLETE message have been received. SS calls for generic procedure C.1 to check that UE is in Idle Mode state.

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.
3	→		RRC CONNECTION RELEASE COMPLETE	SS waits for the arrival of N308 + 1 such message with an interarrival time of T308, using unacknowledged mode.
4				SS verifies that the UE release its L2 signalling radio bearer and dedicated resources and enters idle mode.
5	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it fails.

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 transmit N308 + 1 RRC CONNECTION RELEASE COMPLETE messages. The time between the transmissions shall be equal to the T308 timer value.

After step 3 the UE shall initiate the release of the L2 signalling radio bearer and dedicated resources 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

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; and

1> if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI; or

1> if the message is received on DCCH:

the UE shall:

…

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS;

3> submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using AM RLC on the DCCH to the UTRAN.

3> when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:

4> release all its radio resources; and

4> indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers; and

4> clear any entry for the RRC CONNECTION RELEASE message in the tables "Accepted transactions" and "Rejected transactions" in the variable TRANSACTIONS;

4> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

4> clear the variable ESTABLISHED_RABS;

4> pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;

4> enter idle mode;

4> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode.

3> and the procedure ends.

…

Reference

3GPP TS 25.331 clause 8.1.4.3.

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, on reception of (CM) service request message from the UE, the SS will send CM Service Reject message (for state 6-2) or Service Reject message (for state 6-4) to complete the (CM) service Request procedure. After the UE is brought into the stable state, 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

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; and

1> if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI; or

1> if the message is received on DCCH:

the UE shall:

…

1> in state CELL_FACH:

…

2> if the RRC CONNECTION RELEASE message was received on the CCCH:

3> release all its radio resources;

3> indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to the upper layers;

3> clear any entry for the RRC CONNECTION RELEASE message in the tables "Accepted transactions" and "Rejected transactions" in the variable TRANSACTIONS;

3> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

3> clear the variable ESTABLISHED_RABS;

3> pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode;

3> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.4.3.

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, on reception of (CM) service request message from the UE, the SS will send CM Service Reject message (for state 6-2) or Service Reject message (for state 6-4) to complete the (CM) service Request procedure. After the UE is brought into the stable state, the 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. SS calls for generic procedure C.1 to check that UE is in Idle Mode state.

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.
4	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it fails.

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

When acknowledged mode was used and RLC does not succeed in transmitting the RRC CONNECTION RELEASE COMPLETE message, the UE shall:

1> release all its radio resources;

1> indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;

1> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> clear the variable ESTABLISHED_RABS;

1> enter idle mode;

1> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode;

1> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.4.9.

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 does not receive an 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, on reception of (CM) service request message from the UE, the SS will send CM Service Reject message (for state 6-2) or Service Reject message (for state 6-4) to complete the (CM) service Request procedure. After the UE is brought into the stable state, 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 an RLC STATUS PDU to acknowledge 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 shall not transmit an RLC STATUS PDU to acknowledge this message.
4				SS checks to make sure that UE releases all its radio resources and enters idle mode.
5	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it fails.

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

If the RRC CONNECTION RELEASE message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, and if the "protocol error cause" in PROTOCOL_ERROR_INFORMATION is set to any cause value except "ASN.1 violation or encoding error", the UE shall perform procedure specific error handling as follows:

The UE shall:

1> ignore any IE(s) causing the error but treat the rest of the RRC CONNECTION RELEASE message as normal according to TS 25.331 subclause 8.1.4.3, with an addition of the following actions:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Rejected transactions" in the variable TRANSACTIONS;

3> include the IE "Error indication" in the RRC CONNECTION RELEASE COMPLETE message with:

4> the IE "Failure cause" set to the cause value "Protocol error"; and

4> the IE "Protocol error information" set to the value of the variable PROTOCOL_ERROR_INFORMATION.

…

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

1> set the variable PROTOCOL_ERROR_REJECT to TRUE;

1> set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Message extension not comprehended";

1> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

2> store the IE "Message type" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> set the IE "RRC transaction identifier" to zero in that table entry.

1> perform procedure specific error handling according to TS 25.331 clause 8.

Reference

3GPP TS 25.331 clause 8.1.4 and 9.3b.

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 CONNECTION RELEASE COMPLETE message that includes the appropriate error cause on the uplink DCCH.

8.1.3.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH state (state 6-2 or state 6-4)as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is initially in CELL FACH state. on reception of (CM) service request message from the UE, the SS will Send CM Service Reject message (for state 6-2) or Service Reject message (for state 6-4) to complete the (CM) service Request procedure. After the UE is brought into the stable state, the SS transmits an RRC CONNECTION RELEASE message containing an unexpected critical message extension on the DCCH to request the UE to disconnect the RRC connection. The UE shall transmit an RRC CONNECTION RELEASE COMPLETE message on the uplink DCCH, which includes the IE "Error indication". This IE shall contain the "Protocol error information" IE which in turn contains the IE “Protocol error cause” set to "Message extension not comprehended". Upon completion of the procedure, the SS calls for generic procedure C.1 to check that UE is in IDLE state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2			Void	
3			Void	
4			Void	
5			Void	
6			Void	
7			Void	
8	←		RRC CONNECTION RELEASE	See specific message contents for this message
9	→		RRC CONNECTION RELEASE COMPLETE	See specific message contents for this message This message is sent using acknowledged mode.
10			Void	
11			Void	
12			Void	
13	←→		CALL C.1	If the test result of C.1 indicates that UE is in IDLE state, the test passes, otherwise it fails.

Specific Message Contents

RRC CONNECTION RELEASE (Step 8)

This message must be recognised by the UE as an RRC CONNECTION RELEASE message. However, it shall be constructed (see TS 25.331 clause 10.1.1) such that the UE will detect critical extensions not defined for the protocol release supported by the UE:

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3

Integrity check info	Not present
Critical extensions	'FF'H

RRC CONNECTION RELEASE COMPLETE (Step 9)

Check to see if the same message type found in clause 9 of TS 34.108 is received, with the following exceptions:

Information Element	Value/remark
Error indication	
- Failure cause	'Protocol error'
- Protocol error information	
- CHOICE diagnostics type	Protocol error cause
- Protocol error cause	Check to see if set to 'Message extension not comprehended'

8.1.3.5.5 Test requirement

After step 8 the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message which includes the appropriate cause values in IE "Protocol error information".

After step 12 the UE shall be in IDLE state.

8.1.3.6 RRC Connection Release in CELL_DCH state (Frequency band modification): Success

8.1.3.6.1 Definition

8.1.3.6.2 Conformance requirement

If the UE first receives an RRC CONNECTION RELEASE message in CELL_DCH state, it shall:

- initialize 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.

If 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;
- if V308 is greater than N308:
  - release all its radio resources;
  - enter idle mode;
  - perform cell-selection according to TS25.304;

- procedure end;

Reference

3GPP TS 25.331 clause 8.1.4.

8.1.3.6.3 Test purpose

To confirm that when the UE receives an RRC CONNECTION RELEASE message the UE transmits N308+1 RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH.

To confirm that the UE enters into idle mode with performing cell-selection and selecting new cell configured by SS.

8.1.3.6.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and 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

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	6
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101
- UARFCN downlink(Nd)	Reference to table 6.1.2 of TS34.108 for Cell 6
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.6 (FDD)" in clause 6.1.4 of TS34.108
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cells for measurement	Not present

System Information Block type 11 (TDD)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 for Cell 4
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	Reference clause 6.1,TS34.108,Default settings for cell 4
- Cell parameters ID	Reference clause 6.1,TS34.108,Default settings for cell 4
- Primary CPICH TX power	Not present
- Timeslot list	Not present
- Cell Selection and Re-selection Info	Not present For neigbouring cell, if HCS is not used and all the parameters in cell selection and re-selection info are Default value, this IE is absent.
- $Qoffset1_{s,n}$	0dB
- Maximum allowed UL TX power	Reference to table 6.1.6, TS34.108
- HCS neighbouring cell information	Not present
- CHOICE mode	TDD
- Qrxlevmin	Reference to table 6.1.6, TS 34.108
- Cells for measurement	Not present

Test Procedure

Table 8.1.3.6

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec (FDD)	dBm/ 3.84 MHz	-55	-55	Off	-55
P-CCPCH RSCP (TDD)	dBm	-55	-55	Off	-55

Table 8.1.3.6 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 6.

The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.6. The SS switches its downlink transmission power settings to columns "T1". The SS

modify contents of SIB3 in cell 6. The SS transmits an RRC CONNECTION RELEASE message. After the SS transmits an RRC CONNECTION RELEASE message to the UE, the SS waits for the UE to transmit RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH and checks to see if N308+1 such messages has been received. The UE leaves connected mode and enters idle mode in cell 1. The UE shall perform cell reselection and camp on cell 6 after reading the system information. The SS calls for generic procedure C.1 to check that UE is in Idle state.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.6.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.3.6.
3			Void	
4			Void	
5	←		System Information Block type 3	The SS modifies SIB 3 in cell 1 to indicate that the cell is barred.
6				The SS waits for 5 s.
7	←		RRC CONNECTION RELEASE	
8	→		RRC CONNECTION RELEASE COMPLETE	The SS waits for the arrival of N308+1 such messages send on UM RLC.
9				The UE releases signalling radio bearer and dedicated resources. Then the UE goes to idle mode in cell 1.
10				The UE select s cell 6 and camp on it.
11				The SS waits for 15 s after receiving the last RRC CONNECTION RELEASE COMPLETE message.
12	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode state, the test passes, otherwise it fails.

Specific Message Content

System Information Block type 3 (Step 5)

Use the same message type found in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Cell Access Restriction	
- Cell barred	Barred
- Intra-frequency cell re-selection indicator	Not allowed
- T_{barred}	10[s]
- 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 Barred10	barred
- Access Class Barred11	barred
- Access Class Barred12	barred
- Access Class Barred13	barred
- Access Class Barred14	barred
- Access Class Barred15	barred

RRC CONNECTION RELEASE (Step 6)

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

8.1.3.6.5 Test requirement

After step 6 the UE shall start to transmit N308 + 1 times RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH.

After step 11 the UE shall be in Idle mode in cell 6.

8.1.3.7 RRC Connection Release in CELL_FACH state (Frequency band modification): Success

8.1.3.7.1 Definition

8.1.3.7.2 Conformance requirement

When the UE receives the first RRC CONNECTION RELEASE message

the UE shall:

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:

4> release all its radio resources; and

4> indicate the release of the established signalling connections ; and

4> pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;

4> enter idle mode;

4> perform the actions specified in TS25.331 subclause 8.5.2 when entering idle mode.

a) 3> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.4.

8.1.3.7.3 Test purpose

To confirm that when the UE receives an RRC CONNECTION RELEASE message, the UE releases signalling radio bearer and its radio resources and goes back to the idle.

To confirm that the UE enters into idle mode withby performing cell-selection and selecting other cell than the UE selecting cell in connected mode.

8.1.3.7.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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 8.1.3.7

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec (FDD)	dBm/ 3.84 MHz	-60	-60	off	-60
P-CCPCH RSCP (TDD)	dBm	-60	-60	off	-60

Table 8.1.3.7 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 6.

The UE is in idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.7. SS request operator to make an outgoing call. The SS and UE execute procedure P4 or P6. Next The SS and the UE execute procedure P8 or P10. The SS switches its downlink transmission power settings to columns "T1" and then modifies SIB 3 to indicate that cell 1 is barred. The SS transmits an RRC CONNECTION RELEASE message on DCCH. The UE shall transmit an RRC CONNECTION RELEASE COMPLETE message using AM on DCCH and try to enter idle mode state in cell 1. On selecting cell 1 the UE reads system information block 3 and is aware that cell 1 is barred cell. Hence the UE selects cell 6 and camp on cell 6. Upon completion of the procedure, the SS calls for generic procedure C.1 to check that UE is in idle mode.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.7. SS requests operator to make an outgoing call.
2			SS executes procedure P4 (clause 7.4.2.1.2) or P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3			SS executes procedure P8 (clause 7.4.2.3.2) or P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.3.7.
5	←		System Information Block type 3	The SS modifies SIB 3 in cell 1 to indicate that the cell is barred.
6				The SS waits for 5 s
7	←		RRC CONNECTION RELEASE	
8	→		RRC CONNECTION RELEASE COMPLETE	
9				The SS waits for 5s
10	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode, the test passes, otherwise it fails.

Specific Message Content

System Information Block type 3 (Step 5)

Use the same message type found in clause 6 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Cell Access Restriction	
- Cell barred	Barred
- Intra-frequency cell re-selection indicator	Not allowed
- T_{barred}	10[s]
- 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 Barred10	barred
- Access Class Barred11	barred
- Access Class Barred12	barred
- Access Class Barred13	barred
- Access Class Barred14	barred
- Access Class Barred15	barred

8.1.3.7.5 Test requirement

After step 3 the UE shall transmit RRC CONNECTION RELEASE COMPLETE messages using AM on DCCH.

After step 9 the UE shall be in idle mode of cell 6.

8.1.3.8 Void

8.1.3.9 RRC Connection Release in CELL_DCH state (Network Authentication Failure): Success

8.1.3.9.1 Definition

8.1.3.9.2 Conformance requirement

1. TS 25.331

If the upper layers request the release of the RRC connection, the UE shall:

1> release all its radio resources;

1> enter idle mode;

1> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2;

1> if the UE was in CELL_DCH state prior to entering idle mode:

2> consider all cells that were in the active set prior to entering idle mode to be barred according to [4]; and

2> consider the barred cells as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

2. TS 24.008

Following a UMTS authentication challenge, the MS may reject the core network, on the grounds of an incorrect AUTN parameter (see 3GPP TS 33.102). This parameter contains two possible causes for authentication failure:

….

SQN failure:

If the MS considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, it shall send a AUTHENTICATION FAILURE message to the network, with the reject cause 'Synch failure' and a re-synchronization token AUTS provided by the SIM (see 3GPP TS 33.102). The MS shall then follow the procedure described in clause 4.3.2.6 (d) of TS 24.008.

….

Authentication failure (reject cause 'synch failure'):

The MS shall send an AUTHENTICATION FAILURE message, with reject cause 'synch failure,' to the network and start the timer T3216.

….

If the timer T3216 expires, then the MS shall behave as described in clause 4.3.2.6.1 of TS 24.008.

Reference

3GPP TS 25.331 clause 8.1.4a.

3GPP TS 24.008 clause 4.3.2.5.1, 4.3.2.6

8.1.3.9.3 Test purpose

To confirm that when the upper layers request the release of the RRC connection, the UE releases signalling radio bearer and its radio resources and goes back to idle mode.

To confirm that the UE enters idle mode, bars the cell for a period T_{barred} and hence performs cell-selection to another (non-barred) cell.

8.1.3.9.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1,2 and 3 are active.

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 8.1.3.9 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 8.1.3.9

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 Ec	dBm/3.84 MHz	-60	-60	-85	-62	-85	-65
PCCPCH RSCP	dBm	-60	-60	-85	-62	-85	-65

SS switches the downlink transmission power of the 3 cells to the columns "T1" in Table 8.1.3.9. UE transmits a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 and 3 according to IE "Intra-frequency event identity", which is set to '1a' for FDD mode and `1g` for TDD mode in the SYSTEM INFORMATION BLOCK TYPE 11. For FDD, in steps 2 and 3, after the MEASUREMENT REPORT message is

received, the SS configures 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 which includes IE "Radio Link Addition Information", indicating the 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. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC.

The SS transmits a DOWNLINK DIRECT TRANSFER message. This message contains a NAS message (AUTHENTICATION REQUEST for CS domain or AUTHENTICATION AND CIPHERING REQUEST for PS domain) and an invalid SQN. The UE shall transmit an UPLINK DIRECT TRANSFER message using AM on DCCH. After SS acknowledges the UPLINK DIRECT TRANSFER message, SS shall wait for T3216 or T3320 to expire in the UE. The UE shall then deem that the network has failed the authentication check, release the RRC connection, enter idle mode, bar cell 1 and 2 and perform cell re- selection. Then SS wait for 5 s. SS transmits PAGING TYPE 1 message. The UE shall respond with RRC CONNECTION REQUEST message in cell 3. SS then transmit RRC CONNECTION REJECT message back to UE. SS then waits for T_{barred} to expire (22 minutes) before SS execute generic procedure C.1 in cell 1 to check that UE is in idle mode in cell 1.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		MEASUREMENT REPORT	See specific message contents for this message.
2	←		ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information" for cell 2. This step will be only applicable for FDD.
3	→		ACTIVE SET UPDATE COMPLETE	The UE adds the radio link in cell 2. This step will be only applicable for FDD.
4	←		DOWNLINK DIRECT TRANSFER	Depending on supported CN domain, AUTHENTICATION AND CIPHERING REQUEST message (PS domain) or AUTHENTICATION REQUEST (CS domain) message is embedded in DOWNLINK DIRECT TRANSFER message. An invalid SQN is provided in this message.
5	→		UPLINK DIRECT TRANSFER	After SS acknowledged this message, SS waits for T3216 or T3320 to expire.
6				The SS waits for 5s
7	←		PAGING TYPE 1	
8	→		RRC CONNECTION REQUEST	SS checks that the UE sends this message in cell 3
9	←		RRC CONNECTION REJECT	
10				SS waits 22 minutes for T_{barred} to expire.
11	←→		CALL C.1	SS execute this generic procedure in cell 1. If the test result of C.1 indicates that UE is in idle mode, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT REPORT (Step 1) (FDD)

Information Element	Value/remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Checked that this IE is absent
- 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	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1 of TS 34.108
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1 of TS 34.108
- 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	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108

MEASUREMENT REPORT (Step 1) (TDD)

Information Element	Value/remark
Message Type	
Integrity check info	

- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is absent
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.1 (TDD)" in clause 6.1 of TS 34.108
- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.2 (TDD)" in clause 6.1 of TS 34.108
- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- Pathloss	Checked that this IE is absent
- Cell measured results	
- Cell Identity	Checked that this IE is absent
- SFN-SFN observed time difference	Checked that this IE is absent
- Cell synchronisation information	Checked that this IE is present and includes IE COUNT-C-SFN frame difference
- CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.3 (TDD)" in clause 6.1 of TS 34.108

- Primary CCPCH RSCP Info	Checked that this IE is absent
- PCCPCH RSCP	“Checked to see if set to within an acceptable range"
- 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	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1g
- Cell measurement event results	
CHOICE Mode	TDD
- Cell parameters Id	Refer to clause titled "Default settings for cell No.2 (TDD)" in clause 6.1 of TS 34.108

ACTIVE SET UPDATE (Step 2) (FDD only)

The message to be used in this test is defined in TS 34.108, clause 9, 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	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	1
- Spreading factor	Refer to TS 34.108 clause 6.10.2.4 "Typical radio parameter sets"
- 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

ACTIVE SET UPDATE COMPLETE (Step 3) (FDD only)

Only the message type of this message is checked.

DOWNLINK DIRECT TRANSFER (Step 4)

Use the same message sub-type as found in TS 34.108 clause 9, with the following exceptions.

Information Element	Value/remark
CN domain identity NAS message	CS domain or PS domain AUTHENTICATION REQUEST (CS domain) or AUTHENTICATION AND CIPHERING REQUEST (PS domain) with an invalid SQN value.

UPLINK DIRECT TRANSFER (Step 5)

Information Element	Value/remark
Message Type Integrity check info - Message authentication code - RRC Message sequence number CN domain identity NAS message Measured results on RACH	 This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value. CS domain or PS domain AUTHENTICATION FAILURE(CS domain) or AUTHENTICATION AND CIPHERING FAILURE (PS domain) Not checked

8.1.3.9.5 Test requirement

At step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 2 the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4 the UE shall transmit an UPLINK DIRECT TRANSFER messages using AM on DCCH.

After step 7, the UE shall transmit RRC CONNECTION REQUEST message using TM RLC on CCCH in cell 3.

After step 10 the UE shall be in idle mode in cell 1.

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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN;

…

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon reception of a UE CAPABILITY INFORMATION CONFIRM message, the UE shall:

1> stop timer T304;

…

1> and the procedure ends.

If the UE receives a UE CAPABILITY INFORMATION CONFIRM message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> stop timer T304;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to UE CAPABILITY INFORMATION CONFIRM; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY INFORMATION CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> restart timer T304 and continue with any ongoing procedures or processes as if the invalid UE CAPABILITY INFORMATION CONFIRM message has not been received.

…

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

1> set the variable PROTOCOL_ERROR_REJECT to TRUE;

1> set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Message extension not comprehended";

1> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

2> store the IE "Message type" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> set the IE "RRC transaction identifier" to zero in that table entry.

1> perform procedure specific error handling according to TS 25.331 clause 8.

Reference

3GPP TS 25.331 clauses 8.1.6 , 8.1.7 and 9.3b.

8.1.5.1.3 Test purpose

1. To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS.
2. 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 a UE CAPABILITY ENQUIRY message containing an unexpected critical message extension. 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 requested capabilities. 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 a UE CAPABILITY INFORMATION CONFIRM message containing an unexpected critical message extension. The UE shall detect an error and send an RRC STATUS message to report this event. After submitting this message to lower layers for transmission, the UE shall re-transmit a UE CAPABILITY INFORMATION message on the uplink DCCH after the expiry of restarted T304. SS then trnsmits 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	See specific message contents for this message
4	←		UE CAPABILITY ENQUIRY	See specific message contents for this message.
5	→		UE CAPABILITY INFORMATION	See specific message contents for this 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 the restarted 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)

SS sends a message containing a critical extension not defined for the protocol release supported by the UE, as indicated in the IE "Access stratum release indicator":

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.

- RRC Message sequence number	SS provides the value of this IE, from its internal counter.
Critical extensions	'FF'H

RRC STATUS (Step 3)

Check to see if the same message type found in TS 34.108, clause 9 is received, with the following exceptions:

Information Element	Value/remark
Identification of received message	
- Received message type	UE Capability Enquiry
- RRC transaction identifier	0
Protocol Error Information	Message extension not comprehended
- Protocol Error Cause	

Information Element	Value/remark
Identification of received message	
- Received message type	UE Capability Enquiry
- RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Protocol Error Information	
- Protocol Error Cause	Message extension not comprehended

UE CAPABILITY ENQUIRY (Steps 4) (FDD)

Use the UE CAPABILITY ENQUIRY message as defined in [9] (TS 34.108) Clause 9, with the following exceptions:

Information Element	Value/remark
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	Gsm

UE CAPABILITY ENQUIRY (Steps 4) (3.84 Mcps TDD)

Use the UE CAPABILITY ENQUIRY message as defined in [9] (TS 34.108) Clause 9, with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access FDD capability update requirement	FALSE

- UE radio access TDD capability update requirement	TRUE
- System specific capability update requirement list	Gsm

UE CAPABILITY ENQUIRY (Steps 4) (1.28 Mcps TDD)

Use the UE CAPABILITY ENQUIRY message as defined in [9] (TS 34.108) Clause 9, with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access FDD capability update requirement - UE radio access access3.84 Mcps TDD capability update requirement UE radio access 1.28 Mcps TDD capability update requirement	 FALSE FALSE TRUE
- System specific capability update requirement list	Gsm

UE CAPABILITY INFORMATION (Step 5)

Check to see if the same message type found in [9] (TS 34.108) Clause 9 is received, with the following exceptions:

Information Element	Value/remark
UE system specific capability	Presence and value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings

UE CAPABILITY INFORMATION CONFIRM (Step 9)

SS sends a message containing a critical extension not defined for the protocol release supported by the UE, as indicated in the IE "Access stratum release indicator". Use the UE CAPABILITY INFORMATION CONFIRM message as defined in [9] (TS 34.108) Clause 9, with the following addition:

Information Element	Value/remark
Critical extensions	'FF'H

RRC STATUS (Step 10)

Check to see if the same message type found in TS 34.108, clause 9 is received, with the following exceptions:

Information Element	Value/remark
Identification of received message - Received message type - RRC transaction identifier Protocol Error Information - Protocol Error Cause	 UE Capability Information Confirm 0 Message extension not comprehended

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 "Message extension not comprehended" correct transaction identifier.

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 with correct contents.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "Message extension not comprehended" and the transaction identifier set to the same value as used in the UE CAPABILITY ENQUIRY message of step 7.

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 restarted 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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

…

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 Conditio,n

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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

1> if V304 is greater than N304:

2> initiate the Cell update procedure as specified in TS 25.331 subclause 8.3.1, using the cause "Radio link failure".

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 clause 9 of TS 34.108 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

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in clause 9 of TS 34.108 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	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 clause 9 of TS 34.108 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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN;

…

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon reception of a UE CAPABILITY INFORMATION CONFIRM message, the UE shall:

1> stop timer T304;

…

1> and the procedure ends.

If the UE receives a UE CAPABILITY INFORMATION CONFIRM message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> stop timer T304;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to UE CAPABILITY INFORMATION CONFIRM; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY INFORMATION CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> restart timer T304 and continue with any ongoing procedures or processes as if the invalid UE CAPABILITY INFORMATION CONFIRM message has not been received.

…

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

1> set the variable PROTOCOL_ERROR_REJECT to TRUE;

1> set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Message extension not comprehended";

1> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

2> store the IE "Message type" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> set the IE "RRC transaction identifier" to zero in that table entry.

1> perform procedure specific error handling according to TS 25.331 clause 8.

Reference

3GPP TS 25.331 clauses 8.1.6, 8.1.7 and 9.3b.

8.1.5.4.3 Test purpose

1. To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS.

2. 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 a UE CAPABILITY ENQUIRY message containing an unexpected critical message extension. 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 requested capabilities. 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 a UE CAPABILITY INFORMATION CONFIRM message containing an unexpected critical message extension. The UE shall detect an error and send an RRC STATUS message to report this event. After submitting this message to lower layers for transmission, the UE shall re-transmit a UE CAPABILITY INFORMATION message on the uplink DCCH upon the expiry of restarted 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	See specific message contents for this message.
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 the restarted 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)

Use the UE CAPABILITY ENQUIRY message as defined in [9] (TS 34.108) Clause 9, with the following exceptions:

Information Element	Value/remark
Message Type	
RRC transaction identifier Integrity check info - Message authentication code	Arbitrarily selects an integer between 0 and 3 SS calculates the value of MAC-I for this message and writes to this IE. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.

- RRC Message sequence number	SS provides the value of this IE, from its internal counter.
Critical extensions	'FF'H

RRC STATUS (Step 3)

Check to is the same message type found in TS 34.108, clause 9 is received, with the following exceptions:

Information Element	Value/remark
Identification of received message	
- Received message type	UE Capability Enquiry
RRC transaction identifier	0
Protocol Error Information	
- Protocol Error Cause	Message extension not comprehended

UE CAPABILITY INFORMATION CONFIRM (Step 9)

SS sends a message containing a critical extension not defined for the protocol release supported by the UE, as indicated in the IE "Access stratum release indicator". Use the UE CAPABILITY INFORMATION CONFIRM message as defined in [9] (TS 34.108) Clause 9, with the following addition:

Information Element	Value/remark
Critical extensions	'FF'H

RRC STATUS (Step 10)

Check to see if the same message type found in TS 34.108, clause 9 is received, with the following exceptions:

Information Element	Value/remark
Identification of received message	
- Received message type	UE Capability Information Confirm
- RRC transaction identifier	0
Protocol Error Information	
- Protocol Error Cause	Message extension not comprehended

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 "Message extension not comprehended" correct transaction identifier.

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 with correct contents.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "Message extension not comprehended" and the transaction identifier set to the same value as used in the UE CAPABILITY ENQUIRY message of step 7.

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 restarted 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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

…

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.

8.1.5.6 UE Capability Information/ Reporting Of InterRAT Specific UE RadioAccessCapability.

8.1.5.6.1 Definition

8.1.5.6.2 Conformance requirement

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN;

…

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

Reference

3GPP TS 25.331 clauses 8.1.6

8.1.5.6.3 Test purpose

To confirm that a multi-RAT UE responds with a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the UTRAN and it includes the inter-RAT-specific UE radio access capability information element.

8.1.5.6.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 9. The Inter-RAT Cell Info List of Cell 1 refers to Cell 9. The 3G Neighbour Cell Description List of Cell 9 refers to Cell 1.

UE: CELL_DCH state (state 6-9) as specified in clause 7.4 of TS 34.108

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Test Procedure

The SS starts the GSM and UTRAN cell .The UE is brought into the CELL_DCH state after a successful outgoing call attempt on the UTRAN cell. The SS transmits a UE CAPABILITY ENQUIRY message with System Specific Cap Update Req set to GSM. The UE shall respond with a UE CAPABILITY INFORMATION message on the uplink DCCH that includes the requested capabilities. The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the UE capability enquiry procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH 6-9 state after an outgoing call has been established successfully.
2	←		UE CAPABILITY ENQUIRY	See specific message contents
3	→		UE CAPABILITY INFORMATION	See specific message contents
4	←		UE CAPABILITY INFORMATION CONFIRM	Use default message.

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2)

Use the UE CAPABILITY ENQUIRY message as defined in (TS 34.108) Clause 9, with the following exceptions:

Information Element	Value/remark
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	GSM

UE CAPABILITY INFORMATION (Step 3)

Check to see if the same message type found in (TS 34.108) Clause 9 is received, with the following exceptions:

Information Element	Value/remark
UE_RadioAccessCapability	This IE should reflect the corresponding fdd capability and the IE UE_MultimodeRATCapability should indicate GSM capability according to PICS .
InterRAT_UE_RadioAccessCapability	GSM GSM Classmark 2 GSM Classmark 3 Presence and value will be checked. Stated capability must be compatible with 34.123-3 (ICS statements) and the user settings

8.1.5.6.5 Test requirement

After step 2 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the UE CAPABILITY ENQUIRY message as per the specific message contents.

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

If the UE receives a DOWNLINK DIRECT TRANSFER message, and the signalling connection identified with the IE "CN domain identity" does not exist according to the variable ESTABLISHED_SIGNALLING_CONNECTIONS, the UE shall:

1> ignore the content of the DOWNLINK DIRECT TRANSFER message;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".

…

If the UE receives a DOWNLINK DIRECT TRANSFER message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

When the RRC STATUS message has been submitted to lower layers for transmission, the UE shall:

1> continue with any ongoing processes and procedures as if the DOWNLINK DIRECT TRANSFER message has not been received.

…

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

1> set the variable PROTOCOL_ERROR_REJECT to TRUE;

1> set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Message extension not comprehended";

Reference

3GPP TS 25.331 clause 8.1.9.3a, 8.1.9.4, 9.3b.

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 with a non comprehended critical extension. 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 "Message extension not comprehended" shall 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 be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	See specific message content
2		→	RRC STATUS	
3		←	DOWNLINK DIRECT TRANSFER	Sent from a new CN domain.
4		→	RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER (Step 1)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Critical extensions	'FF'H

RRC STATUS (Step 2)

Message content is the same as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Identification of received messag type	
- Received message type	DOWNLINK DIRECT TRANSFER
- RRC transaction identifier	0
Protocol error information	
– Protocol error cause	Message extension not comprehended

DOWNLINK DIRECT TRANSFER (Step 3)

Use the same message content as 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)

Message content is the same as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Identification of received messag type	
- Received message type	DOWNLINK DIRECT TRANSFER
- RRC transaction identifier	Same value in the DOWNLINK DIRECT TRANSFER message in step 3.
Protocol error information	
– Protocol error cause	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 "Message extension not comprehended" in IE "Protocol error cause" and "DOWNLINK DIRECT TRANSFER" in IE "Received message type".

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" and "DOWNLINK DIRECT TRANSFER" in IE "Received message type".

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

If the UE receives a DOWNLINK DIRECT TRANSFER message, and the signalling connection identified with the IE "CN domain identity" does not exist according to the variable ESTABLISHED_SIGNALLING_CONNECTIONS, the UE shall:

1> ignore the content of the DOWNLINK DIRECT TRANSFER message;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".

…

If the UE receives a DOWNLINK DIRECT TRANSFER message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

When the RRC STATUS message has been submitted to lower layers for transmission, the UE shall:

1> continue with any ongoing processes and procedures as if the DOWNLINK DIRECT TRANSFER message has not been received.

…

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

1> set the variable PROTOCOL_ERROR_REJECT to TRUE;

1> set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Message extension not comprehended";

Reference

3GPP TS 25.331 clause 8.1.9.3a, 8.1.9.4, 9.3b.

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: CS-DCCH_FACH (state 6-6) or PS_DCCH_FACH (state 6-8) 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_FACH 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 "Message extension not comprehended" shall 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 be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		DOWNLINK DIRECT TRANSFER	See specific message content
2	→		RRC STATUS	
3	←		DOWNLINK DIRECT TRANSFER	Sent from a new CN domain.
4	→		RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER (Step 1)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Critical extentions	'FF'H

RRC STATUS (Step 2)

Message content is the same as found in Clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Identification of received messag type	

- Received message type	DOWNLINK DIRECT TRANSFER
- RRC transaction identifier	0
Protocol error information	
– Protocol error cause	Message extension not comprehended

DOWNLINK DIRECT TRANSFER (Step 3)

Use the same message content as 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)

Message content is the same as found in Clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Identification of received message type	
- Received message type	DOWNLINK DIRECT TRANSFER
- RRC transaction identifier	Same value in the DOWNLINK DIRECT TRANSFER message in step 3.
Protocol error information	
– Protocol error cause	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 "Message extension not comprehended" in IE "Protocol error cause" and "DOWNLINK DIRECT TRANSFER" in IE "Received message type".

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" and "DOWNLINK DIRECT TRANSFER" in IE "Received message type".

8.1.6.3 Measurement Report on INITIAL DIRECT TRANSFER message and UPLINK DIRECT TRANSFER message

8.1.6.3.1 Definition

8.1.6.3.2 Conformance requirement

In CELL_FACH state, the UE shall:

1> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);

1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

Reference

3GPP TS 25.331, clause 8.1.8.2, 8.1.10.2

8.1.6.3.3 Test Purpose

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.

8.1.6.3.4 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. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11 (Step 1) (FDD)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- 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 cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0 dB

- Reference time difference to cell	Not present
- 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
- Cell selection and Re-selection info	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	
- 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	
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	FALSE
- 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	Event trigger

- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each event	
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	15 dB
- Cells forbidden to affect reporting range	Not Present
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	0
- Replacement activation threshold	Not Present
- Time to trigger	60 ms
- Amount of reporting	Infinity
- Reporting interval	16 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

System Information Block type 11 (Step 1) (TDD)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- 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 cells	
- Intra-frequency cell id	0

- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH Info	Set to same as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not present
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	PCCPCH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	PCCPCH 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	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- PCCPCH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	FALSE
- PCCPCH 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	Event trigger

- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each event	
- Intra-frequency event identity	1g
- Reporting Range Constant	15 dB
- Cells forbidden to affect reporting range	Not Present
- W	0.0
- Hysteresis	1.0 dB
- Time to trigger	60 ms
- Amount of reporting	Infinity
- Reporting interval	16 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

Test Procedure

The UE is initially in idle mode and camps 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 out going call procedure. During this procedure UE transmits INITIAL DIRECT TRANSFER and UPLINK DIRECT TRANSFER messages with IE"Measured results on RACH" which is set to measured CPICH RSCP" (for FDD) or "Primary CCPCH info" (for TDD) in the current cell. After that SS releases a RRC connection.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		

1			The UE is in idle mode and camps onto cell 1.
2			SS prompts the test operator to make an outgoing call.
3	→	RRC CONNECTION REQUEST	
4	←	RRC CONNECTION SETUP	See default message content (Transition to CELL_FACH)
5	→	RRC CONNECTION SETUP COMPLETE	See default message content
6	→	INITIAL DIRECT TRANSFER (SERVICE REQUEST)	See specific message content
7	←	DOWNLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING REQUEST)	
8	→	UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE)	See specific message content
9	←	SECURITY MODE COMMAND	See default message content
10	→	SECURITY MODE COMPLETE	See default message content
11	→	UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST)	See specific message content
11a	←	DOWNLINK DIRECT TRANSFER (ACTIVATE PDP CONTEXT REJECT)	Cause set to “Activation rejected, unspecified”
12	←	RRC CONNECTION RELEASE	See default message content
13	→	RRC CONNECTION RELEASE COMPLETE	See default message content

Specific Message Content

RRC CONNECTION REQUEST (Step 3) (FDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

RRC CONNECTION REQUEST (Step 3) (TDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - PCCPCH RSCP - Measurement results for monitored cells	 Check to see if set to 'PCCPCH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

INITIAL DIRECT TRANSFER (SERVICE REQUEST) (Step 6) (FDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

INITIAL DIRECT TRANSFER (SERVICE REQUEST) (Step 6) (TDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - PCCPCH RSCP - Measurement results for monitored cells	 Check to see if set to 'PCCPCH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE) (Step 8)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE) (Step 8) (TDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - PCCPCH RSCP - Measurement results for monitored cells	 Check to see if set to 'PCCPCH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST) (Step 11) (FDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST) (Step 11) (TDD)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - PCCPCH RSCP - Measurement results for monitored cells	 Check to see if set to 'PCCPCH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

8.1.6.3.5 Test Requirement

After step 2 the UE shall transmit a RRC CONNECTION REQUEST message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP (FDD mode) or PCCPCH RSCP (TDD mode).

After step 5 the UE shall transmit a INITIAL DIRECT TRANSFER (SERVICE REQUEST) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP.

After step 7 the UE shall transmit a UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP (FDD mode) or PCCPCH RSCP (TDD mode).

After step 10 the UE shall transmit a UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP (FDD mode) or PCCPCH RSCP (TDD mode).

8.1.6.4 UPLINK Direct Transfer (RLC re-establishment)

8.1.6.4.1 Definition

8.1.6.4.2 Conformance requirement

If signalling radio bearer RB n (where n equals to 3 or 4) was used when transmitting the UPLINK DIRECT TRANSFER message and a re-establishment of RLC on same signalling radio bearer RB n occurs before the successful delivery of the UPLINK DIRECT TRANSFER message has been confirmed by RLC, the UE shall:

1> retransmit the UPLINK DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB n.

Reference

3GPP TS 25.331 clause 8.1.10.2a.

8.1.6.4.3 Test purpose

To confirm that the UE transmits a second UPLINK DIRECT TRANSFER message after the re-establishment of RLC on RB3 which occurs before the successful delivery of the first UPLINK DIRECT TRANSFER message.

8.1.6.4.4 Method of test

Initial Condition

System Simulator: 1 cell – Cell 1 is active.

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

Specific Message Contents

For RRC CONNECTION SETUP message to be transmitted in the initial setup, use the default message given in TS 34.108 subclause 9 with the following exceptions:.

RRC CONNECTION SETUP

Information Element	Value/Remarks

Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	Not Present
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	1000
- Timer_poll	1000
- Poll_PDU	Not present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	Not Present
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of 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 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 RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	3
- CHOICE RLC size list	Explicit List
- RLC size index	According to TS34.108 clause 6.10.2.4.1.3 for FDD, 6.10.3.4.1.3 for TDD 3.84 Mcps option or 6.11.5.4.1.3 for TDD 1.28 Mcps option (standalone 13.6 kbps signalling radio bearer)
- MAC logical channel priority	3
- Downlink RLC logical channel info	
- Number of 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

Test Procedure

UE is in CELL_DCH. SS set the RLC entity for SRB3 to stop. SS requests operator to deactivate the established PDP context. Then the UE shall transmit an UPLINK DIRECT TRANSFER message on the uplink DCCH. SS does not acknowledge the AM PDUs carrying UPLINK DIRECT TRANSFER message. The SS then sends a UTRAN

MOBILITY INFORMATION message on SRB1 requesting the UE to do a SRNS relocation, 5s after asking the operator to deactivate the established PDP context. The UE shall send a UTRAN MOBILITY INFORMATION CONFIRM message on SRB2. The SS set the RLC entity for SRB3 to continue upon receiving UTRAN MOBILITY INFORMATION CONFIRM message. Then UE shall retransmit an UPLINK DIRECT TRANSFER message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS set the RLC entity for SRB3 to stop. SS requests the operator to initiate a PDP context deactivation.
2	→		UPLINK DIRECT TRANSFER	.
3	←		UTRAN MOBILITY INFORMATION	
4	→		UTRAN MOBILITY INFORMATION CONFIRM	UE sends this message on uplink DCCH on AM RLC. After the reception, SS configures RB 3 to continue.
5	→		UPLINK DIRECT TRANSFER	DEACTIVATE PDP CONTEXT REQUEST message is embedded in UPLINK DIRECT TRANSFER message.

Specific Message Contents

UTRAN MOBILITY INFORMATION (Step 3)

Use the same message sub-type found in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.
- Ciphering mode command	Start/restart
- Ciphering algorithm	UEA0 or UEA1. The indicated algorithm must be one of the algorithms supported by the UE as indicated in the IE "security capability" in the RRC CONNECTION SETUP COMPLETE message.
- Ciphering activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256, this IE is set to "Not present" if only PS RABs are established during the initial setup procedure.
- Radio bearer downlink ciphering activation time info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN + 2
- RB identity	2
- RLC sequence number	Current RLC SN + 2
- RB identity	3
- RLC sequence number	Current RLC SN + 2
- RB identity	4
- RLC sequence number	Current RLC SN + 2
- RB identity	20, this IE is set to "Not present" if PS RAB is not established during the initial setup procedure.
- RLC sequence number	Current RLC SN + 2
Integrity protection mode info	
- Integrity protection mode command	Start
- Downlink integrity protection activation info	Not Present
- Integrity protection algorithm	UIA1
- Integrity protection initialisation number	SS selects an arbitrary 32 bits number for FRESH. The first/ leftmost bit of the bit string contains the most significant bit of the FRESH.
New U-RNTI	
- SRNC identity	0000 0000 0010B
- S-RNTI	0000 0000 0000 0000 0001B

UTRAN MOBILITY INFORMATION CONFIRM (Step 4)

Check that the UE uses the same message sub-type found in TS 34.108 clause 9.

UPLINK DIRECT TRANSFER (Step 5)

Information Element	Value/remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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.
CN domain identity	PS domain
NAS message	DEACTIVATE PDP CONTEXT REQUEST
Measured results on RACH	Not checked

8.1.6.4.5 Test requirement

After step 3, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message using uplink DCCH on AM RLC and then retransmit UPLINK DIRECT TRANSFER message on the uplink DCCH.

8.1.7 Security mode command

8.1.7.1 Security mode command in CELL_DCH state (CS Domain)

8.1.7.1.1 Definition

8.1.7.1.2 Conformance requirement

1. This procedure is used to trigger or start of ciphering or to command the restart of ciphering with the new ciphering configuration for the signalling radio bearers and any radio bearers of a particular CN Domain. 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 a downlink activation time for each effected SRB and RB, and new ciphering mode configuration, the UE shall apply the old ciphering configuration, for a particular SRB or RB, 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 respective uplink activation time for each SRB or RB.

Reference

3GPP TS 25.331 clauses 8.1.12, 8.6.3.4, 8.6.3.5.

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 send SECURITY MODE FAILURE message when SS transmits a SECURITY MODE COMMAND message that causes an invalid configuration. To confirm that the UE sends a SECURITY MODE FAILURE message when the 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) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS initiates an Authentication procedure, which will result in the generation of a new security keyset (CK/IK). The SS transmits a SECURITY MODE COMMAND message which contains an unexpected critical message extension. The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH. Then SS transmits a SECURITY MODE COMMAND message with IE's "Ciphering mode info" and "Integrity protection mode info both omitted". Again the UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, the SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times and "Integrity check info" IE. 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. The UE shall transmit a SECURITY MODE COMPLETE message which contains the correct uplink activation times and also "Integrity check info" IE using the new integrity protection configuration. The SS records the uplink ciphering activation time for RB 2. Next, the 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 the 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 the 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.
1a	←		AUTHENTICATION REQUEST	MM message which will result in the generation of a new security keyset
1b	→		AUTHENTICATION RESPONSE	MM
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 "Message extension not comprehended".
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			Void	
8			Void	
9	→		SECURITY MODE COMPLETE	SS verifies that this message is sent using the old ciphering configuration. 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
Integrity check info Message authentication code RRC Message sequence number Critical extensions	 Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. Next RRC SN 'FF'H

SECURITY MODE FAILURE (Step 3)

The same message found in TS 34.108, clause 9 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 information Protocol error cause	 Protocol error Message extension not comprehended

SECURITY MODE COMMAND (Step 4)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	Not Present
- Ciphering mode command	
Integrity protection mode info	Not Present
CN domain identity	CS Domain
UE system specific security capability UE system specific security capability - Inter-RAT UE security capability - CHOICE *system* - GSM security capability	Not Present in condition A1 Present In condition A2 GSM The indicated algorithms must be the same as the algorithms supported by the UE as indicated in the IE " UE system specific capability " in the RRC CONNECTION SETUP COMPLETE message.

Condition	Explanation
A1	UE not supporting GSM
A2	UE supporting GSM

SECURITY MODE FAILURE (Step 5)

The same message found in TS 34.108, clause 9 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)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	UEA1
Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
Radio bearer downlink ciphering activation time info	
RB Identity	1
RLC sequence number	Current RLC SN
RB Identity	2
RLC sequence number	Current RLC SN + 2
RB Identity	3
RLC sequence number	Current RLC SN
RB Identity	4
RLC sequence number	Current RLC SN
Integrity protection mode info	
Integrity protection mode command	Modify
Downlink integrity protection activation info	Current RRC SN for SRB0 Current RRC SN for SRB1 Current RRC SN for SRB2 Current RRC SN for SRB3 Current RRC SN for SRB4
Integrity protection algorithm	UIA1
CN domain identity	CS Domain
UE system specific security capability	Not Present in condition A1
UE system specific security capability - Inter-RAT UE security capability - CHOICE *system* - GSM security capability	Present In condition A2 GSM The indicated algorithms must be the same as the algorithms supported by the UE as indicated in the IE " UE system specific capability " in the RRC CONNECTION SETUP COMPLETE message.

Condition	Explanation
A1	UE not supporting GSM
A2	UE supporting GSM

SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
- Message Authentication code	Checked to see if present. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- RRC Message sequence number	Checked to see if present
Uplink integrity protection activation info	
- RRC message sequence number list	Check to see if the RRC SN for RB 0 to RB 4 are present
Radio bearer uplink ciphering activation info	
- RB Identity other than RB2	Check to see if the RLC SN for RB1, 3 and 4 are present
- RB Identity	2
- RLC sequence number	SS records this value. See step 10 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 8 the SS checks that the SECURITY MODE COMPLETE message is received ciphered using the old configuration 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 new ciphering configuration and 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 using the new configuration. 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..

8.1.7.1b Security mode command in CELL_DCH state (PS Domain)

8.1.7.1b.1 Definition

8.1.7.1b.2 Conformance requirement

Upon reception of the SECURITY MODE COMMAND message, the UE shall:

1> if neither IE "Ciphering mode info" nor IE "Integrity protection mode info" is included in the SECURITY MODE COMMAND:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

1> prior to sending the SECURITY MODE COMPLETE message:

…

2> if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info":

3> include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO for each signalling radio bearer;

…

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;

2> transmit the SECURITY MODE COMPLETE message on the uplink DCCH in AM RLC;

…

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

…

1> apply the new ciphering configuration in the lower layers for all RBs that belong to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

1> apply the new ciphering configuration as follows:

2> consider an activation time in downlink to be pending:

…

3> for AM-RLC until all AMD PDUs with sequence numbers up to and including activation time –1 have been received;

2> if the IE "Radio bearer downlink ciphering activation time info" is present:

3> apply the following procedure for each radio bearer and signalling radio bearers using RLC-AM or RLC-UM indicated by the IE "RB identity":

…

4> select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:

…

6> set a suitable value that would ensure a minimised delay in the change to the latest security configuration.

…

5> use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

…

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall:

…

1> if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was included in SECURITY MODE COMMAND:

…

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

…

4> select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:

…

6> set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration.

…

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration;

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info";

NOTE: For signalling radio bearers that have a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration, UTRAN should set this value in IE "Downlink integrity protection activation info".

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration.

Reference

3GPP TS 25.331 clauses 8.1.12.3, 8.6.3.4, 8.6.3.5.

8.1.7.1b.3 Test purpose

To confirm that the UE modifies an integrity protection configuration and applies new keys on reception of a correct SECURITY MODE COMMAND message.

To confirm that the UE modifies a ciphering configuration in the uplink and downlink and applies new keys according to transmitted activation times. Also confirms that the UE accepts a new ciphering configuration for a RB when ciphering is started for SRBs.

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 and new integrity protection configuration.

To confirm that UE send SECURITY MODE FAILURE message when SS transmits a SECURITY MODE COMMAND message with a non comprehended critical extension.

To confirm that the UE sends a SECURITY MODE FAILURE message when UE receives an invalid SECURITY MODE COMMAND message.

8.1.7.1b.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 CELL_DCH state with integrity protection and ciphering started for SRBs. The SS initiates an Authentication and Ciphering procedure, which will result in the generation of a new security keyset (CK/IK).

The SS transmits a SECURITY MODE COMMAND message which contains an unexpected critical message extension. The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH.

Then SS transmits a SECURITY MODE COMMAND message with IEs "Ciphering mode info" and "Integrity protection mode info both omitted". Again the UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH.

Next, the SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times and "Integrity check info" IE. The UE shall check the integrity check info and shall start to configure ciphering in downlink according to the SECURITY MODE COMMAND message.

Then UE shall transmit a SECURITY MODE COMPLETE message which contains uplink activation times and also the correct "Integrity check info" IE using the new integrity protection configuration. SS records the uplink ciphering activation time for RB 2.

Next, the 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 shall send UE CAPABILITY INFORMATION CONFIRM messages to the UE for each received UE CAPABILITY INFORMATION message from the 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 the 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.
1a	←		AUTHENTICATION AND CIPHERING REQUEST	GMM message which will result in the generation of a new security keyset
1b	→		AUTHENTICATION AND CIPHERING RESPONSE	GMM
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 "Message extension not comprehended".
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 COMPLETE	SS verifies that this message is sent using the old ciphering configuration and with the new integrity protection configuration. SS records the uplink ciphering activation time for RB 2.
8	←		UE CAPABILITY ENQUIRY	SS repeats step 8, 9 and 10 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.
9	→		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.
10	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info Message authentication code RRC Message sequence number Critical extensions	 Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. Next RRC SN 'FF'H

SECURITY MODE FAILURE (Step 3)

Message content is the same as found in Clause 9 of TS 34.108, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Protocol error
Protocol error information	
Protocol error cause	Message extension not comprehended

SECURITY MODE COMMAND (Step 4)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	Not Present
Integrity protection mode info	Not Present
CN domain identity	PS Domain

SECURITY MODE FAILURE (Step 5)

Message content is the same as found in Clause 9 of TS 34.108, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Invalid configuration

SECURITY MODE COMMAND (Step 6)

Information Element	Condition	Value/remark
RRC transaction identifier	A1, A2	0
Integrity check info		
Message authentication code		Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number		Next RRC SN
Security Capability		Same as originally sent by UE (and stored in SS)
Ciphering mode info		
Ciphering mode command		Start/restart
Ciphering algorithm		UEA1
Activation time for DPCH		Not Present
Radio bearer downlink ciphering activation time info		
RB Identity		1
RLC sequence number		Current RLC SN
RB Identity		2
RLC sequence number		Current RLC SN + 2
RB Identity		3
RLC sequence number		Current RLC SN
RB Identity		4
RLC sequence number		Current RLC SN
RB Identity		20
RLC sequence number		Current RLC SN
Integrity protection mode info		
Integrity protection mode command		Modify
Downlink integrity protection activation info		
		Current RRC SN for SRB0
		Current RRC SN for SRB1
		0
		Current RRC SN for SRB3
		Current RRC SN for SRB4
Integrity protection algorithm		UIA1
CN domain identity		PS Domain
UE system specific security capability	A1	Not Present
UE system specific security capability	A2	
- Inter-RAT UE security capability		
- CHOICE *system*		GSM
- GSM security capability		The indicated algorithms must be the same as the algorithms supported by the UE as indicated in the IE " UE system specific capability " in the RRC CONNECTION SETUP COMPLETE message.

Condition	Explanation
A1	UE not supporting GSM
A2	UE supporting GSM

NOTE: "Current RLC SN" is defined as the value of VT(S) in the SS at the time when the SECURITY MODE COMMAND is submitted to RLC for transmission, that is, the RLC send sequence number of the next transmitted RLC PDU on the particular radio bearer. "Current RRC SN" is defined as the RRC message sequence number of the next transmitted RRC message on the particular radio bearer.

SECURITY MODE COMPLETE (Step 7)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	
- RRC message sequence number list	
-RRC message sequence number	Check to see if the RRC SN for RB 0 is present
-RRC message sequence number	Check to see if the RRC SN for RB 1 is present
-RRC message sequence number	Check to see if the RRC SN for RB 2 is present
-RRC message sequence number	Check to see if the RRC SN for RB 3 is present
-RRC message sequence number	Check to see if the RRC SN for RB 4 is present
Radio bearer uplink ciphering activation time info	
- Radio bearer activation time	
- RB Identity	1
- RLC sequence number	Check to see if the RLC SN for RB1is present
- RB Identity	2
- RLC sequence number	SS records this value. See step 8 in 'expected sequence'
- RB Identity	3
- RLC sequence number	Check to see if the RLC SN for RB3 is present
- RB Identity	4
- RLC sequence number	Check to see if the RLC SN for RB4 is present
- RB Identity	20
- RLC sequence number	Check to see if the RLC SN for RB20 is present

8.1.7.1b.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.

At step 7 SS checks that the SECURITY MODE COMPLETE message is received ciphered using the old configuration and that the calculated "integrity check info" IE is correct according to the new integrity protection configuration (new key and HFN set to zero).

After step 7 SS verifies that all uplink signalling messages on RB2 are integrity protected with the new integrity protection configuration.

After uplink ciphering activation time has elapsed, SS verifies that the UE CAPABILITY INFORMATION message received is ciphered with the new ciphering configuration asindicated in the SECURITY MODE COMMAND (Step 6) message.

After downlink ciphering activation time has elapsed, SS shall apply ciphering to all downlink messages using the new ciphering configuration. At least one more cycle between step 8 and step 10 shall be repeated correctly after activation time on both directions has elapsed and the messages on both direction shall be ciphered and integrity protected.

8.1.7.1c Security mode control in CELL_DCH state (CN Domain switch and new keys at RRC message sequence number wrap around)

8.1.7.1c.1 Definition

8.1.7.1c.2 Conformance requirement

Upon reception of the SECURITY MODE COMMAND message, the UE shall:

…

2> set the variable LATEST_CONFIGURED_CN_DOMAIN equal to the IE "CN domain identity";

2> set the IE "Status" in the variable SECURITY_MODIFICATION for the CN domain indicated in the IE "CN domain identity" in the received SECURITY MODE COMMAND to the value "Affected";

…

If a new security key set (new ciphering and integrity protection keys) has been received from the upper layers [40] for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, the UE shall:

1> set the START value for the CN domain indicated in the variable LATEST_CONFIGURED_CN_DOMAIN to zero;

1> if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info":

2> for integrity protection in the downlink on each signalling radio bearer except RB2:

3> if IE "Integrity protection mode command" has the value "start":

…

3> else:

4> for the first message for which the RRC sequence number in a received RRC message for this signalling radio bearer is equal to or greater than the activation time as indicated in IE "Downlink integrity protection activation info" as included in the IE "Integrity protection mode info":

5> start using the new integrity key;

5> for this signalling radio bearer:

6> set the IE "Downlink RRC HFN" in the variable INTEGRITY_PROTECTION_INFO of the downlink COUNT-I to zero.

2> for integrity protection in the uplink on each signalling radio bearer except RB2:

3> for the first message for which the RRC sequence number in a to be transmitted RRC message for this signalling radio bearer is equal to the activation time as indicated in IE "Uplink integrity protection activation info" included in the transmitted SECURITY MODE COMPLETE message:

4> start using the new integrity key;

4> for this signalling radio bearer:

5> set the IE "Uplink RRC HFN" in the variable INTEGRITY_PROTECTION_INFO of the uplink COUNT-I to zero.

2> for integrity protection in the downlink on signalling radio bearer RB2:

3> at the received SECURITY MODECOMMAND:

4> start using the new integrity key;

4> set the IE "Downlink RRC HFN" in the variable INTEGRITY_PROTECTION_INFO of the downlink COUNT-I to zero.

2> for integrity protection in the uplink on signalling radio bearer RB2 :

3> at the transmitted SECURITY MODE COMPLETE:

4> start using the new integrity key;

4> set the IE "Uplink RRC HFN" in the variable INTEGRITY_PROTECTION_INFO of the uplink COUNT-I to zero.

1> if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":

2> for each signalling radio bearer and for each radio bearer for the CN domain indicated in the variable LATEST_CONFIGURED_CN_DOMAIN:

3> if the IE "Status" in the variable CIPHERING_STATUS has the value "Started" for this CN domain, then for ciphering on radio bearers using RLC-TM:

4> at the CFN as indicated in the IE "Ciphering activation time for DPCH" in the IE "Ciphering mode info":

5> start using the new key in uplink and downlink;

5> set the HFN component of the COUNT-C to zero.

3> if the IE "Status" in the variable CIPHERING_STATUS has the value "Started" for this CN domain, then for ciphering on radio bearers and signalling radio bearers using RLC-AM and RLC-UM:

4> in the downlink, at the RLC sequence number indicated in IE "Radio bearer downlink ciphering activation time info" in the IE "Ciphering mode info":

5> start using the new key;

5> set the HFN component of the downlink COUNT-C to zero.

4> in the uplink, at the RLC sequence number indicated in IE "Radio bearer uplink ciphering activation time info":

5> start using the new key;

5> set the HFN component of the uplink COUNT-C to zero.

1> consider the value of the latest transmitted START value to be zero.

…

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

1> apply the new ciphering configuration in the lower layers for all RBs that belong to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

2> using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration;

2> for each radio bearer that belongs to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

3> using the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one as the value of BEARER [40] in the ciphering algorithm.

…

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall:

1> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to TRUE;

1> if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was included in SECURITY MODE COMMAND:

…

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

2> set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:

…

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration;

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info";

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration.

Reference

3GPP TS 25.331 clauses 8.1.12.3, 8.6.3.4, 8.6.3.5.

8.1.7.1c.3 Test purpose

To verify that the UE correctly modifies the integrity protection and ciphering configuration with a newly generated PS domain keyset for when previously using the CS domain keyset.

To verify that the UE can handle change of integrity protection key when the RRC message sequence number wraps around when the SECURITY MODE COMMAND is received.

8.1.7.1c.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: has entered PS+CS-DCCH+DTCH_DCH (state 6-14) using procedure P24 as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state.

The SS transmits UE CAPABILITY ENQUIRY message repeatedly on the downlink DCCH using RLC-UM mode on SRB1. The UE shall respond to each downlink message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS then sends UE CAPABILITY INFORMATION CONFIRM message to the UE using RLC-AM. This procedure is repeated until the RRC message sequence number for SRB 2 in downlink equals 15.

The SS initiates an Authentication procedure, which will result in the generation of a new security keyset (CK/IK). The SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times and "Integrity check info" IE.

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. The UE shall transmit a SECURITY MODE COMPLETE message which contains the correct uplink activation times and also "Integrity check info" IE using the new integrity protection configuration.

The SS records the uplink ciphering activation time for RB 2.

Next, the 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 the 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 the SS through the reception of a correctly ciphered and integrity-protected UE CAPABILITY INFORMATION message.

The SS transmits UE CAPABILITY ENQUIRY message on the downlink DCCH using RLC-UM mode on SRB1. The UE shall respond to this message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS then send UE CAPABILITY INFORMATION CONFIRM message to the UE.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_DCH state.
2	←		UE CAPABILITY ENQUIRY	The SS repeats step 2, 3 and 4 until its internal downlink RRC message sequence number for RB 2 has the value 15.
3	→		UE CAPABILITY INFORMATION	The 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.
4	←		UE CAPABILITY INFORMATION CONFIRM	
5	←		AUTHENTICATION and CIPHERING REQUEST	GMM message which will result in the generation of a new security keyset
6	→		AUTHENTICATION AND CIPHERING RESPONSE	GMM
7	←		SECURITY MODE COMMAND	See specific message contents.
8	→		SECURITY MODE COMPLETE	The SS verifies that this message is sent using the old ciphering configuration. SS records the uplink ciphering activation time for RB 2.
9	←		UE CAPABILITY ENQUIRY	The SS repeats step 9, 10 and 11 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.
10	→		UE CAPABILITY INFORMATION	The 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.
11	←		UE CAPABILITY INFORMATION CONFIRM	
12	←		UE CAPABILITY ENQUIRY	The SS sends this message with the downlink RRC message sequence number for SRB 1 with the value 0.
13	→		UE CAPABILITY INFORMATION	The 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.
14	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

SECURITY MODE COMMAND (Step 7)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	UEA1
Radio bearer downlink ciphering activation time info	
RB Identity	1
RLC sequence number	Current RLC SN
RB Identity	2
RLC sequence number	Current RLC SN + 2
RB Identity	3
RLC sequence number	Current RLC SN
RB Identity	4
RLC sequence number	Current RLC SN
RB Identity	20
RLC sequence number	Current RLC SN
Integrity protection mode info	
Integrity protection mode command	Modify
Downlink integrity protection activation info	
	Current RRC SN for SRB0
	Current RRC SN for SRB1
	0
	Current RRC SN for SRB3
	Current RRC SN for SRB4
Integrity protection algorithm	UIA1
CN domain identity	PS Domain

NOTE: "Current RLC SN" is defined as the value of VT(S) in the SS at the time when the SECURITY MODE COMMAND is submitted to RLC for transmission, that is, the RLC send sequence number of the next transmitted RLC PDU on the particular radio bearer. "Current RRC SN" is defined as the RRC message sequence number of the next transmitted RRC message on the particular radio bearer.

SECURITY MODE COMPLETE (Step 8)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- RRC Message sequence number	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
Uplink integrity protection activation info	
- RRC message sequence number list	Check to see if the RRC SN for RB 0 to RB 4 are present
-RRC message sequence number	Check to see if the RRC SN for RB 0 is present
-RRC message sequence number	Check to see if the RRC SN for RB 1 is present
-RRC message sequence number	Check to see if the RRC SN for RB 2 is present
-RRC message sequence number	Check to see if the RRC SN for RB 3 is present
-RRC message sequence number	Check to see if the RRC SN for RB 4 is present
Radio bearer uplink ciphering activation time info	
- Radio bearer activation time	
- RB Identity	1
- RLC sequence number	Check to see if the RLC SN for RB1 is present
- RB Identity	2
- RLC sequence number	SS records this value. See step 10 in 'expected sequence'
- RB Identity	3
- RLC sequence number	Check to see if the RLC SN for RB3 is present
- RB Identity	4
- RLC sequence number	Check to see if the RLC SN for RB4 is present
- RB Identity	20
- RLC sequence number	Check to see if the RLC SN for RB20 is present

8.1.7.1c.5 Test requirement

After step 7 the SS checks that the SECURITY MODE COMPLETE message is received ciphered using the old configuration and that the calculated "integrity check info" IE is correct.

After step 8 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 new ciphering configuration and algorithm indicated in the SECURITY MODE COMMAND (Step 7) message.

After downlink ciphering activation time has lapsed, SS shall apply ciphering to all downlink messages using the new configuration. At least one more cycle between step 9 and step 11 shall be repeated correctly after activation time on both directions has lapsed and the messages on both direction shall be ciphered and integrity protected..

8.1.7.1d Security mode control in CELL_DCH state interrupted by a cell update

8.1.7.1d.1 Definition

8.1.7.1d.2 Conformance requirement

If:

- a cell update procedure according to subclause 8.3.1 is initiated; and
- the received SECURITY MODE COMMAND message causes either,
  - the IE "Reconfiguration" in the variable CIPHERING_STATUS to be set to TRUE; and/or
  - the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to be set to TRUE:

the UE shall:

1> abort the ongoing integrity and/or ciphering reconfiguration;

1> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;

1> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;

1> when the response message has been submitted to lower layers for transmission:

2> if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":

3> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and

3> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

2> if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info":

3> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

3> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

2> continue with any ongoing processes and procedures as if the invalid SECURITY MODE COMMAND message has not been received; and

2> clear the variable SECURITY_MODIFICATION;

2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.12.4b,

8.1.7.1d.3 Test purpose

To confirm that the UE aborts the ongoing integrity and ciphering configuration and the security mode control procedure in case it is interrupted by a cell update procedure.

8.1.7.1d.4 Method of test

Initial Condition

System Simulator: 1 cell.

SYSTEM INFORMATION BLOCK TYPE 1 (see specific message contents).

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

The RRC CONNECTION SETUP message used in the initial setup should be as shown under Specific Message Contents below.

Test Procedure

The UE is in CELL_DCH state. The SS initiates an Authentication and Ciphering procedure, which will result in the generation of a new security keyset (CK/IK).

The SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times and "Integrity check info" IE..

Then SS turns off the power in the cell after the UE has received the Security Mode Command , but before the UE could complete this security procedure to change over to the new security configuration. The UE will initiate the cell reselection procedure.

The UE shall then abort the Security procedure and is expected to continue to use the old security configuration..

Then after 6 seconds the power is turned on in the cell again.

The UE sends a CELL UPDATE message which includes the value "Radio link failure" set in IE "Cell update cause". The SS verifies that this message is integrity-protected correctly with the old security configuration. The SS shall transmit a CELL UPDATE CONFIRM message which includes "Physical channel information elements", on downlink DCCH after receiving CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using RLC-AM. SS verifies that this message is both integrity-protected and ciphered correctly with the old security configuration.

Next, the SS transmits UE CAPABILITY ENQUIRY message on the downlink DCCH using RLC-AM mode. The UE shall respond to with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM using the same old integrity and ciphering configuration as used before the SECURITY MODE COMMAND was received.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_DCH state.
2	←		AUTHENTICATION AND CIPHERING REQUEST	GMM message which will result in the generation of a new security keyset
3	→		AUTHENTICATION AND CIPHERING RESPONSE	GMM
4	←		SECURITY MODE COMMAND	See specific message contents. The SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times and "Integrity check info" IE.
5				SS turns off power in the cell after the UE has received the Security Mode Command , but before the UE could complete this security procedure to change over to the new security configuration.
6				The UE starts cell reselection
7				After waiting for 6 seconds, the SS turns on power in the cell.
8	→		CELL UPDATE	This message includes the value "Radio link failure" set in IE "Cell update cause". The SS verifies that message is integrity-protected correctly with the old security configuration
9	←		CELL UPDATE CONFIRM	This message includes "Physical channel information elements".
10	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE shall send this message on the uplink DCCH using RLC-AM. SS verifies that message is both integrity-protected and ciphered correctly with the old security configuration
11	←		UE CAPABILITY ENQUIRY	The SS repeats step 11, 12 and 13 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.
12	→		UE CAPABILITY INFORMATION	The 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.
13	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

RRC CONNECTION SETUP (message used in the initial setup)

Use the same message type and contents as found in clause 9 of TS 34.108 with the following exception:

Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	Not Present
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	32
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	OMIT
- Poll_PDU	Not Present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present

System Information Block type 1 (FDD)

Use the default system information block with the same type specified in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- UE Timers and constants in connected mode	
- T312	2

SECURITY MODE COMMAND (Step 4)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	UEA1
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	1
RLC sequence number	Current RLC SN
RB Identity	2
RLC sequence number	Current RLC SN + 2
RB Identity	3
RLC sequence number	Current RLC SN
RB Identity	4
RLC sequence number	Current RLC SN
RB Identity	20
RLC sequence number	Current RLC SN
Integrity protection mode info	
Integrity protection mode command	Modify
Downlink integrity protection activation info	Current RRC SN for SRB0 Current RRC SN for SRB1 Current RRC SN for SRB2 Current RRC SN for SRB3 Current RRC SN for SRB4
Integrity protection algorithm	UIA1
CN domain identity	PS Domain

NOTE: "Current RLC SN" is defined as the value of VT(S) in the SS at the time when the SECURITY MODE COMMAND is submitted to RLC for transmission, that is, the RLC send sequence number of the next transmitted RLC PDU on the particular radio bearer. "Current RRC SN" is defined as the RRC message sequence number of the next transmitted RRC message on the particular radio bearer.

CELL UPDATE (Step 8)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in clause 9 of TS 34.108 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 9) (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 8
RRC State indicator	CELL_DCH
CHOICE channel requirement	Uplink DPCH info

-UplinkDPCH Info	Same as RADIO BEARER SETUP message used to move to intial condition
Downlink information common for all radio links	Same as RRC CONNECTION SETUP message used to move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to move to intial condition

CELL UPDATE CONFIRM (Step 9) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in clause 9 of TS 34.108 Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 8
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

8.1.7.1d.5 Test requirement

After uplink ciphering activation time has lapsed, SS verifies that the UE CAPABILITY INFORMATION message received at step 12 is integrity protected with UIA algorithm and ciphered with the old ciphering configuration and algorithm and not the one indicated in the SECURITY MODE COMMAND (Step 4) message.

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 start of ciphering, or to command the restart of ciphering with the new ciphering configuration for the signalling radio bearers and any radio bearers of a particular CN Domain. 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 for each effected SRB and RB, and new ciphering mode configuration, the UE shall apply the old ciphering configuration, for a particular SRB or RB, 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 respectively for each SRB or RB.

Reference

3GPP TS 25.331 clauses 8.1.12, 8.6.3.4, 8.6.3.5.

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 the UE sends a SECURITY MODE FAILURE message when the 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 initiates an Authentication and Ciphering procedure, which will result in the generation of a new security keyset (CK/IK). The SS transmits a SECURITY MODE COMMAND message which contains an unexpected critical message extension. The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes the correct downlink activation times 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 correct uplink activation times 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 by sending a UE CAPABILITY INFORMATION CONFIRM. 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.
1a	←		AUTHENTICATION AND CIPHERING REQUEST	GMM message which will result in the generation of a new security keyset
1b	→		AUTHENTICATION AND CIPHERING RESPONSE	GMM
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 "Message extension not comprehended".
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 using the old ciphering configuration. 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
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Critical extensions	'FF'H

SECURITY MODE COMMAND (Step 8)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
Security Capability	Same as originally sent by UE (and stored in SS)
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	UEA1
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	1
RLC sequence number	Current RLC SN
RB Identity	2
RLC sequence number	Current RLC SN + 2
RB Identity	3
RLC sequence number	Current RLC SN
RB Identity	4
RLC sequence number	Current RLC SN
RB Identity	20
RLC sequence number	Current RLC SN
Integrity protection mode info	
Integrity protection mode command	Modify
Downlink integrity protection activation info	Current RRC SN for SRB0 Current RRC SN for SRB1 Current RRC SN for SRB2 Current RRC SN for SRB3 Current RRC SN for SRB4
Integrity protection algorithm	UIA1
CN domain identity	PS Domain
UE system specific security capability	Not Present in condition A1
UE system specific security capability	Present In condition A2
- Inter-RAT UE security capability	
- CHOICE *system*	GSM
- GSM security capability	The indicated algorithms must be the same as the algorithms supported by the UE as indicated in the IE " UE system specific capability " in the RRC CONNECTION SETUP COMPLETE message.

Condition	Explanation
A1	UE not supporting GSM
A2	UE supporting GSM

SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
- Message Authentication code	Checked to see if present. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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 other than RB2	Check to see if the RLC SN for RB1, 3 , 4 and 20 are present
- RB Identity	2
- RLC sequence number	SS records this value. See step 10 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 SS checks that the SECURITY MODE COMPLETE message is received ciphered using the old configuration 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 new ciphering configuration and 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 using the new configuration. 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, with symmetric RAB

8.1.8.1.1 Definition

8.1.8.1.2 Conformance requirement

When the UE receives a COUNTER CHECK message it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> set the IE "RRC transaction identifier" in the COUNTER CHECK RESPONSE message to the value of "RRC transaction identifier" in the entry for the COUNTER CHECK message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry.

If:

- there is one or more radio bearer(s) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS, which is (are) not included in the IE "RB COUNT-C MSB information"; or
- there is one or more radio bearer(s) included in the IE "RB COUNT-C MSB information", which is (are) not stored in the variable ESTABLISHED_RABS; or
- for any radio bearer (excluding signalling radio bearers) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS and included in the IE "RB COUNT-C MSB information" with COUNT-C MSB values different from the MSB part of the COUNT-C values in the UE:

the UE shall:

1> include these radio bearers in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message. For any RB which is included in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message but not stored in the variable ESTABLISHED_RABS in the UE, the MSB part of COUNT-C values in the COUNTER CHECK RESPONSE message shall be set identical to COUNT-C-MSB values in the COUNTER CHECK message. The LSB part shall be filled with zeroes.

The UE shall:

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

When the COUNTER CHECK RESPONSE message has been submitted to lower layers for transmission the procedure ends.

If the UE receives a COUNTER CHECK message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to COUNTER CHECK; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE COUNTER CHECK message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid COUNTER CHECK message has not been received.

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: PS-DCCH+DTCH_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 contains an unexpected critical message extension. 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
Critical extensions	'FF'H

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	Message extension not comprehended

COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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 "Message extension not comprehended".

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 it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> set the IE "RRC transaction identifier" in the COUNTER CHECK RESPONSE message to the value of "RRC transaction identifier" in the entry for the COUNTER CHECK message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry.

If:

- there is one or more radio bearer(s) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS, which is (are) not included in the IE "RB COUNT-C MSB information"; or

- there is one or more radio bearer(s) included in the IE "RB COUNT-C MSB information", which is (are) not stored in the variable ESTABLISHED_RABS; or

- for any radio bearer (excluding signalling radio bearers) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS and included in the IE "RB COUNT-C MSB information" with COUNT-C MSB values different from the MSB part of the COUNT-C values in the UE:

the UE shall:

1> include these radio bearers in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message. For any RB which is included in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message but not stored in the variable ESTABLISHED_RABS in the UE, the MSB part of COUNT-C values in the COUNTER CHECK RESPONSE message shall be set identical to COUNT-C-MSB values in the COUNTER CHECK message. The LSB part shall be filled with zeroes.

The UE shall:

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

When the COUNTER CHECK RESPONSE message has been submitted to lower layers for transmission the procedure ends.

If the UE receives a COUNTER CHECK message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to COUNTER CHECK; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE COUNTER CHECK message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid COUNTER CHECK message has not been received.

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: PS-DCCH+DTCH_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 contains an unexpected critical message extension. 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
Critical extensions	’FF’H

RRC STATUS (Step 3)

Information Element	Value/remark
Message Type	
Protocol Error Information	
- Protocol Error Cause	Message extension not comprehended

COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Next RRC SN
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 "Message extension not comprehended".

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".

8.1.8.3 Counter check in CELL_DCH state, with asymmetric RAB

8.1.8.3.1 Definition

8.1.8.3.2 Conformance requirement

When the UE receives a COUNTER CHECK message it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> if no COUNT-C exists for a radio bearer for a given direction (uplink or downlink) because:

2> it is a uni-directional radio bearer configured only for the other direction (downlink or uplink respectively), or

2> it has been configured to RLC-TM mode in one direction (uplink or downlink) and RLC-UM in the other (downlink or uplink respectively),

3> set the COUNT-C in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message, to any value;

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.15.

8.1.8.3.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message even if COUNT-C does not exist for a radio bearer for a given direction for reasons given in the above section.

8.1.8.3.4 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 supported by the UE.

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. SS sends a RADIO BEARER SETUP message to set up an asymmetric radio bearer. UE shall configure accordingly and then reply with a RADIO BEARER SETUP COMPLETE message. Then SS transmits a COUNTER CHECK message. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH.

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	←		RADIO BEARER SETUP	See specific message contents for this message
3	→		RADIO BEARER SETUP COMPLETE	
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

RADIO BEARER SETUP (Step 2) (FDD)

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type indicated by "Non speech from CELL_DCH to CELL_DCH in CS" or "Speech from CELL_DCH to CELL_DCH in CS" or "Packet to CELL_DCH from CELL_DCH in PS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	0000 0101B (for PS domain) or 0000 0001B (for CS domain) The first/ leftmost bit of the bit string contains the most significant bit of the RAB identity.
- CN domain identity	PS domain or CS domain (depending on the domain supported by the UE)
- NAS Synchronization Indicator	Not Present
- Re-establishment timer	UseT315 (for PS domain) or UseT314 (for CS domain)
- RB information to setup	
- RB identity	9
- PDCP info	
- Support for lossless SRNS relocation	FALSE
- Max PDCP SN window size	Not present
- PDCP PDU header	Absent
- Header compression information	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	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	4
- Logical channel identity	Not Present
- CHOICE RLC size list	Configured
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	9
- 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 List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	8
- 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	7
Added or Reconfigured TrCH information list	1 DCH added
- Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	4
- 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 - CRC size	Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured TrCH information list 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	1 DCH DCH 9 Same as UL DCH 1 -2.0

COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type RRC transaction identifier Integrity check info Message authentication code RRC Message sequence number RB COUNT-C MSB information - RB COUNT-C MSB information - RB identity - COUNT-C MSB uplink - COUNT-C MSB downlink	 0 Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I. Next RRC SN 9 Arbitrary Set to current COUNT-C for RB#9 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Message Type RRC transaction identifier Integrity check info RB COUNT-C information - RB identity - COUNT-C uplink - COUNT-C downlink	 0 Not checked Check to see if set to 9 Check to see if it is present Check to see if it is present

8.1.8.3.5 Test requirement

After step 2, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the uplink DCCH.

After step 4, the UE shall transmit a COUNTER CHECK RESPONSE message.

8.1.9 Signalling Connection Release Indication

8.1.9.1 Definition

8.1.9.2 Conformance requirement

The UE shall, on receiving a request to release (abort) the signalling connection from upper layers for a specific CN domain:

1> if a signalling connection in the variable ESTABLISHED_SIGNALLING_CONNECTIONS for the specific CN domain identified with the IE "CN domain identity" exists:

2> initiate the signalling connection release indication procedure.

1> otherwise:

…

The UE shall:

1> set the IE "CN Domain Identity" to the value indicated by the upper layers. The value of the IE indicates the CN domain whose associated signalling connection the upper layers are indicating to be released;

1> remove the signalling connection with the identity indicated by upper layers from the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> transmit a SIGNALLING CONNECTION RELEASE INDICATION message on DCCH using AM RLC.

When the SIGNALLING CONNECTION RELEASE INDICATION message has been submitted to lower layers for transmission the procedure ends.

In order to establish an MM connection, the mobile station proceeds as follows (TS 24 008 clause 4.5.1.1, 4.5.1.2, 4.5.3.1)

If no RR connection exists, the MM sublayer requests the RR sublayer to establish an RR connection and enters MM sublayer state WAIT FOR RR CONNECTION (MM CONNECTION). This request contains an establishment cause and a CM SERVICE REQUEST message. When the establishment of an RR connection is indicated by the RR sublayer, the MM sublayer of the mobile station starts timer T3230, gives an indication to the CM entity that requested the MM connection establishment, and enters MM sublayer state WAIT FOR OUTGOING MM CONNECTION.

If T3230 expires (i.e. no response is given but a RR connection is available) the MM connection establishment is aborted and the requesting CM sublayer is informed. If no other MM connection exists then the mobile station shall proceed as described in clause 4.5.3.1 for release of the RR connection. Otherwise the mobile station shall return to the MM sublayer state where the request of an MM connection was received, i.e. to MM sublayer state MM connection active. Other ongoing MM connections (if any) shall not be affected.

If all MM connections are released by their CM entities, and no RRLP procedure (see 3GPP TS 04.31 [23b]) and no LCS procedure over RRC (see 3GPP TS 25.331 [23c]) is ongoing, the mobile station shall set timer T3240 and enter the state WAIT FOR NETWORK COMMAND, expecting the release of the RR connection.

The UE initiates the Service request procedure by sending a SERVICE REQUEST message. The timer T3317 shall be started after the SERVICE REQUEST message has been sent and the UE enters the GMM-SERVICE-REQUEST-INITIATED is entered. The SERVICE REQUEST message shall contain the valid P-TMSI and the Service type shall indicate either signalling or paging response(TS 24.008 clause 4.7.13.1). The following abnormal cases can be identified(TS 24.008 clause 4.7.13.5).

c) T3317 expired

The UE shall enter GMM-REGISTERED state.

If the UE is in PMM-IDLE state then the procedure shall be aborted and the UE shall initiate a PS signalling connection release.

Reference

3GPP TS 25.331 clause 8.1.14, TS 24.008 clause 4.5.1.1, 4.5.1.2, 4.5.3.1, 4.7.13.1, 4.7.13.5.

8.1.9.3 Test purpose

To confirm that the UE transmits a SIGNALLING CONNECTION RELEASE INDICATION message after upper layer requests to release its signalling connection.

8.1.9.4 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

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call. Then the UE shall establish an RRC connection and transmit a SERVICE REQUEST message or a CM SERVICE REQUEST message using the INITIAL DIRECT TRANSFER message depending on supported CN domain. The SS does not respond to this message, and the UE shall send a SIGNALLING CONNECTION RELEASE INDICATION 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 initiates an outgoing call.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4				The UE configures the layer 2 and layer 1.
5	→		RRC CONNECTION SETUP COMPLETE	
6	→		INITIAL DIRECT TRANSFER	Depending on supported CN domain, includes SERVICE REQUEST message (PS domain) or CM SERVICE REQUEST message (CS domain) is emdedded in INITIAL DIRECT TRANSFER message.
7				The SS does not respond and waits for T3317 (PS domain) or T3230+T3240 (CS domain).
8	→		SIGNALLING CONNECTION RELEASE INDICATION	The timing of this message is not checked.

Specific Message Content

SIGNALLING CONNECTION RELEASE INDICATION (Step 8)

Information Element	Value/remark
CN domain identity	Check to see if this value is the same as in the uplink INITIAL DIRECT TRANSFER message.

8.1.9.5 Test requirement

After step 7 the UE shall transmit a SIGNALLING CONNECTION RELEASE INDICATION message which includes the same CN domain identity as that found in the INITIAL DIRECT TRANSFER message.

8.1.9a Signalling Connection Release Indication (RLC re-establishment): CS signalling connection release

8.1.9a.1 Definition

8.1.9a.2 Conformance requirement

If a re-establishment of RLC on signalling radio bearer RB2 occurs before the successful delivery of the SIGNALLING CONNECTION RELEASE INDICATION message has been confirmed by RLC, the UE shall:

1> retransmit the SIGNALLING CONNECTION RELEASE INDICATION message on the uplink DCCH using AM RLC on signalling radio bearer RB2.

Reference

3GPP TS 25.331 clause 8.1.14.2a.

8.1.9a.3 Test purpose

To confirm that the UE re-transmits a SIGNALLING CONNECTION RELEASE INDICATION message after it re-establishes the RLC entity on signalling radio bearer RB2 if SRNS relocation occurs before the successful delivery of SIGNALLING CONECTION RELEASE INDICATION message.

8.1.9a.4 Method of test

Initial Condition

System Simulator: 1 cells – Cell 1.

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 mode. The SS transmits a DOWNLINK DIRECT TRANSFER message. This message contains a NAS message (AUTHENTICATION REQUEST for CS domain or AUTHENTICATION AND CIPHERING REQUEST for PS domain). The UE shall transmit an UPLINK DIRECT TRANSFER message (AUTHENTICATION RESPONSE) using AM on DCCH. After SS responses with a DOWNLINK DIRECT TRANSFER message (AUTHENTICATION REJECT), SS shall set the RLC entity for SRB2 to stop and wait for T3240 to expire in the UE. The UE shall send a SIGNALLING CONNECTION RELEASE INDICATION message which includes the CN domain identity with the same value as that in the UPLINK DIRECT TRANSFER message. But SS do not respond with STATUS PDU for the AM DATA PDU with POLL. The SS then sends a UTRAN MOBILITY INFORMATION message on SRB1 requesting the UE to do a SRNS relocation. SS shall set the RLC entity for SRB2 to continue. The UE shall send a UTRAN MOBILITY INFORMATION CONFIRM message. The UE shall re-transmit a SIGNALLING CONNECTION RELEASE INDICATION message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		DOWNLINK DIRECT TRANSFER (AUTHENTICATION REQUEST)	Depending on supported CN domain, AUTHENTICATION AND CIPHERING REQUEST message (PS domain) or AUTHENTICATION REQUEST (CS domain) message is embedded in DOWNLINK DIRECT TRANSFER message. An invalid SQN is provided in this message.
2	→		UPLINK DIRECT TRANSFER (AUTHENTICATION RESPONSE)	
3	←		DOWNLINK DIRECT TRANSFER (AUTHENTICATION REJECT)	After SS transmits this message, SS sets the RLC entity for SRB2 to stop and waits for T3240 to expire.
4	→		SIGNALLING CONNECTION RELEASE INDICATION	
5	←		UTRAN MOBILITY INFORMATION	. SS sets RLC for SRB2 to continue.
6	→		UTRAN MOBILITY INFORMATION CONFIRM	UE sends this message on uplink DCCH on AM.
7	→		SIGNALLING CONNECTION RELEASE INDICATION	UE re-transmits this message.

Specific Message Content

DOWNLINK DIRECT TRANSFER (Step 1)

Use the same message sub-type as found in TS 34.108 clause 9, with the following exceptions.

Information Element	Value/remark
CN domain identity	CS domain or PS domain
NAS message	AUTHENTICATION REQUEST (CS domain) or AUTHENTICATION AND CIPHERING REQUEST (PS domain)

UPLINK DIRECT TRANSFER (Step 2)

Information Element	Value/remark
Message Type	
Integrity check info	

- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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.
CN domain identity	CS domain or PS domain
NAS message	AUTHENTICATION FAILURE(CS domain) or AUTHENTICATION AND CIPHERING FAILURE (PS domain)
Measured results on RACH	Not checked

UTRAN MOBILITY INFORMATION (Step 5)

Use the same message sub-type found in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.
- Ciphering mode command	Start/restart
- Ciphering algorithm	UEA0 or UEA1. The indicated algorithm must be one of the algorithms supported by the UE as indicated in the IE "security capability" in the RRC CONNECTION SETUP COMPLETE message.
- Ciphering activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256, this IE is set to "Not present" if only PS RABs are established during the initial setup procedure.
- Radio bearer downlink ciphering activation time info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN + 2
- RB identity	2
- RLC sequence number	Current RLC SN + 2
- RB identity	3
- RLC sequence number	Current RLC SN + 2
- RB identity	4
- RLC sequence number	Current RLC SN + 2
- RB identity	20, this IE is set to "Not present" if PS RAB is not established during the initial setup procedure.
- RLC sequence number	Current RLC SN + 2
Integrity protection mode info	
- Integrity protection mode command	Start
- Downlink integrity protection activation info	Not Present
- Integrity protection algorithm	UIA1
- Integrity protection initialisation number	SS selects an arbitrary 32 bits number for FRESH. The first/ leftmost bit of the bit string contains the most significant bit of the FRESH.
New U-RNTI	
- SRNC identity	0000 0000 0010B
- S-RNTI	0000 0000 0000 0000 0001B

UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Check that the UE uses the same message sub-type found in TS 34.108 clause 9.

SIGNALLING CONNECTION RELEASE INDICATION (Step 7)

Information Element	Value/remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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.
CN domain identity	Check to see if this value is the same as in the UPLINK DIRECT TRANSFER message.

8.1.9a.5 Test requirement

After step 1 the UE shall transmit UPLINK DIRECT TRANSFER messages using AM on DCCH.

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

After step 6 the UE shall re-transmit a SIGNALLING CONNECTION RELEASE INDICATION message which includes the same CN domain identity as that found in the UPLINK DIRECT TRANSFER message.

8.1.9b Signalling Connection Release Indication (RLC re-establishment): PS signalling connection release

8.1.9b.1 Definition

8.1.9b.2 Conformance requirement

If a re-establishment of RLC on signalling radio bearer RB2 occurs before the successful delivery of the SIGNALLING CONNECTION RELEASE INDICATION message has been confirmed by RLC, the UE shall:

1> retransmit the SIGNALLING CONNECTION RELEASE INDICATION message on the uplink DCCH using AM RLC on signalling radio bearer RB2.

Reference

3GPP TS 25.331 clause 8.1.14.2a.

8.1.9b.3 Test purpose

To confirm that the UE re-transmits a SIGNALLING CONNECTION RELEASE INDICATION message after it re-establishes the RLC entity on signalling radio bearer RB2 if SRNS relocation occurs before the successful delivery of SIGNALLING CONECTION RELEASE INDICATION message.

8.1.9b.4 Method of test

Initial Condition

System Simulator: 1 cells – Cell 1 is active.

UE: Registered Idle Mode on PS (state 3) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in idle mode of cell 1. SS requests operator to initial an outgoing PS call. UE shall send RRC CONNECTION REQUEST message on the uplink CCCH. Then the SS shall respond with a RRC CONNECTION SETUP message, which request the UE to enter CELL_DCH state, on a downlink CCCH. The UE shall then send a RRC CONNECTION SETUP COMPLETE message on the uplink DCCH. After this, the UE shall send a INITIAL DIRECT TRANSFER message to SS. This message contains a NAS message (SERVICE REQUEST). After SS has acknowledge the INITIAL DIRECT TRANSFER message, the SS shall set the RLC entity for SRB3 to stop wait for T3317 to expire in the UE. The UE shall send a SIGNALLING CONNECTION RELEASE INDICATION message which includes the CN domain identity with the same value as that in the INITIAL DIRECT TRANSFER message. But SS do not respond with STATUS PDU for the AM DATA PDU with POLL. The SS then sends a UTRAN MOBILITY INFORMATION message requesting the UE to do SRNS relocation. The UE shall send a UTRAN MOBILITY INFORMATION CONFIRMmessage. The UE shall re-transmit a SIGNALLING CONNECTION RELEASE INDICATION message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	SS request the operator to make an outgoing PS call.
2	←		RRC CONNECTION SETUP	
3	→		RRC CONNECTION SETUP COMPLETE	
4	→		INITIAL DIRECT TRANSFER (SERVICE REQUEST)	After SS acknowledges this message, SS set the RLC entity for SRB2 to stop and waits for T3317to expire.
5	→		SIGNALLING CONNECTION RELEASE INDICATION	SS do not send any RLC response (STATUS PDU).
6	←		UTRAN MOBILITY INFORMATION	SS sets RLC for SRB2 to continue.
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		SIGNALLING CONNECTION RELEASE INDICATION	UE re-transmits this message.

Specific Message Content

RRC CONNECTION REQUEST (Step 1)

Check that the UE sends the same message sub-type as found in TS 34.108 clause 9, with the following exceptions.

Information Element	Value/remark
Establishment cause	Originating Interactive Call or Originating Background Call
Measured results on RACH	Not checked.

RRC CONNECTION SETUP (Step 2)

Use the same message sub-type "RRC CONNECTION SETUP message: UM (Transition to CELL_DCH)"as found in TS 34.108 clause 9.

RRC CONNECTION SETUP COMPLETE (Step 3)

Check that the UE sends the same message sub-type as found in TS 34.108 clause 9.

INITIAL DIRECT TRANSFER (Step 4)

Check that the UE sends the same message sub-type as found in TS 34.108 clause 9, with the following exceptions.

Information Element	Value/remark
CN domain identity	PS domain
NAS message	SERVICE REQUEST

UTRAN MOBILITY INFORMATION (Step 5)

Use the same message sub-type found in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.
- Ciphering mode command	Start/restart
- Ciphering algorithm	UEA0 or UEA1. The indicated algorithm must be one of the algorithms supported by the UE as indicated in the IE "security capability" in the RRC CONNECTION SETUP COMPLETE message.
- Ciphering activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256, this IE is set to "Not present" if only PS RABs are established during the initial setup procedure.
- Radio bearer downlink ciphering activation time info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN + 2
- RB identity	2
- RLC sequence number	Current RLC SN + 2
- RB identity	3
- RLC sequence number	Current RLC SN + 2
- RB identity	4
- RLC sequence number	Current RLC SN + 2
- RB identity	20, this IE is set to "Not present" if PS RAB is not established during the initial setup procedure.
- RLC sequence number	Current RLC SN + 2
Integrity protection mode info	
- Integrity protection mode command	Start
- Downlink integrity protection activation info	Not Present
- Integrity protection algorithm	UIA1
- Integrity protection initialisation number	SS selects an arbitrary 32 bits number for FRESH. The first/ leftmost bit of the bit string contains the most significant bit of the FRESH.
New U-RNTI	
- SRNC identity	0000 0000 0010B
- S-RNTI	0000 0000 0000 0000 0001B

UTRAN MOBILITY INFORMATION CONFIRM (Step 4)

Check that the UE uses the same message sub-type found in TS 34.108 clause 9.

SIGNALLING CONNECTION RELEASE INDICATION (Step 8)

Information Element	Value/remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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.
CN domain identity	Check to see if this value is the same as in the INITIAL DIRECT TRANSFER message.

8.1.9b.5 Test requirement

In step 1, the UE shall transmit RRC CONNECTION REQUEST message using TM RLC on uplink CCCH.

After step 2, the UE shall transmit RRC CONNECTION SETUP COMPLETE message using AM RLC on uplink DCCH.

After step 3 the UE shall transmit INITIAL DIRECT TRANSFER messages using AM on DCCH.

After step 6, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message using uplink DCCH on AM RLC.

After step 7 the UE shall re-transmit a SIGNALLING CONNECTION RELEASE INDICATION message which includes the same CN domain identity as that found in the INITIAL DIRECT TRANSFER message.

8.1.10 Broadcast of system information

8.1.10.1 Dynamic change of segmentation, concatenation & scheduling and handling of unsupported information blocks

8.1.10.1.1 Definition

8.1.10.1.2 Conformance requirement

1. The RRC layer in the UE shall perform re-assembly of segments. All segments belonging to the same master information block, scheduling block or system information block shall be assembled in ascending order with respect to the segment index. When all segments of the master information block, scheduling block or a system information block have been received, the UE shall perform decoding of the complete master information block, scheduling block or system information block.

2. For all system information blocks or scheduling blocks that are supported by the UE referenced in the master information block or the scheduling blocks, the UE shall perform the following actions:

   ……..

   - read and store the IEs of that system information block;

NOTE: There are options with and without scheduling blocks.

3. For system information blocks, not supported by the UE…….

   - skip reading this system information block;

   - skip monitoring changes to this system information block.

4. However, to enable future introduction of new system information blocks, the UE shall also be able to receive system information blocks other than the ones indicated within the scheduling information. The UE may ignore contents of such system information block.

Reference

3GPP TS 25.331 clause 8.1.1.1.4, 8.1.1.5 and 8.1.1.6.

8.1.10.1.3 Test Purpose

1. To verify that dynamic change of System Information is identified, new information read and used.
2. To verify that the UE can support all segment types and "all" segment combinations.
3. To verify that the UE can dynamically use different configurations
4. To verify that the UE properly uses combinations of Default and assigned values.

NOTE: There are 4 segment types and 11 different SYSTEM INFORMATION segment combinations to interpret when re-assembling segments. There are many alternative SIB position offsets and repetition rates.

The allowed segment types are:

- First segment
- Subsequent segment
- Last segment
- Complete

The allowed segment combinations are:

1. No segment
2. First segment
3. Subsequent segment
4. Last segment
5. Last segment + First segment
6. Last segment + one or several Complete
7. Last segment + one or several Complete + First segment
8. One or several Complete
9. One or several Complete + First segment
10. One Complete of size 215 to 226 (not fully tested)
11. Last segment of size 215 to 222

NOTE: Segment combinations 10 and 11 are more difficult to test as they require SIBs of a very specific size.

8.1.10.1.4 Method of test

Alternate two sets of System Information and generate a call after one or the other set has been broadcasted.

These two sets of System Information are based on the System Information specified in 34.108, section 6.

A "Minimum" configuration and a "Maximum" configuration of System Information are defined. The "Minimum" configuration does not contain all of the Information Blocks defined for Configuration 1 in section 6 of 34.108. On the other hand the "Maximum" configuration, defined by the scheduling information in Table 2, contains extra optional information blocks to ensure that the SIB configuration is consistent with the defined scheduling The contents of the SIBs remains the same (the contents of SIB11 changes for the "Maximum" configuration) while the contents of the MIB and SB is altered depending on the nature of the test, i.e. the schedule changes between the "Minimum" and "Maximum" configurations.

The four segment types and the eleven segment combinations are tested using the two configurations.

NOTE: The decoding of system information in the UE is only measurable by functional tests. A large number of functions utilize system information. An extensive test of the system information decoding thus creates a large number of functional tests, which is impractical. This test specification uses a "sample test", where only a few functions are invoked.

Initial Condition

System Simulator: 2 cells (Cell 1, Cell 2), settings for Cell 1 and Cell 2 according to TS 34.108, clause 6.1.5, table 6.1.2 (Cell 1 configured as the serving cell). The Minimum Configuration System Information is being broadcast in Cell 1. The Maximum Configuration System Information is being broadcast in Cell 2.

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

Table 8.1.10.1-1 illustrates the downlink power to be applied for the 2 cells.

Table 8.1.10.1-1

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec	dBm/ 3.84 MHz	-60	-65

a) The UE is in C1 in Camped Normally state.

b) UE starts establishing a MO call/session.

c) SS disconnects the call. UE shall enter IDLE state.

d) The SS sets the Cell Barred Indicator in SIB3 to "Barred". The SS notifies the UE of the changed System Information by sending the Paging Type 1 message including the IE BCCH Modification Info indicating that new System Information is available.

e) Based on the updated information in SIB3, the UE performs a cell reselection to Cell 2. The UE reads the System Information in Cell 2, i.e. Maximum Configuration System Information.

f) UE starts establishing a MO call/session.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	UE			Mobile originated call/session establishment
2	SS			Disconnection of call
3	←		System Information (Minimum Configuration)	System Information message is sent in Cell 1 with the Cell Barred Indicator in SIB3 set to "Barred".
4	←		Paging Type 1	This message is to inform the UE in Idle State that System Information has been updated.
5	UE			Mobile originated call /session establishment
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content for "Minimum" configuration

The Minimum configuration is the same as the Configuration 1 System Information on 34.108, section 6 with some differences:

- Only SIB1, SIB3, SIB5, SIB7, SIB11 are used, i.e. the Minimum number of SIBs is used.
- No SB is used, all scheduling information is contained in the MIB. The contents of this changed MIB are shown below.
- A different schedule is used. Details below.
- SIB11 lists eight cells (one serving cell and seven neighbouring cells). Only the first two of these are considered relevant.

Other characteristics of the Minimum configuration are:

- An unknown future System Information Block (SIB-F1) is included. SIB-F1 is used to test segment combination 10. However, it should be noted that, based on the scheduling information in the MIB, UEs may decide not to read segment combinations associated with SIBs that they do not support/comprehend. Hence, the use of SIB-F1 does not fully cover the verification of combinations 10. The tests really just verify that UE ignores it. There is no real verification that the UE can support segment combinations 10.

The following tables show (based on SIB_REP and SIB_POS in the MIB and SB) the schedule used for the Minimum configuration.

Table 1: The schedule in this table incorporates segment combinations 1, 2, 3, 4, 7, 8, 10.

Block Type	MIB	SIB1	SIB3	SIB5	SIB7	SIB11
SIB_REP	8	64	64	64	16	64
SEG_ COUNT	1	1	1	3	1	3

Frame No / SIB_POS	0	2	4	6	8	10	12	14
Block Type	MIB		SIB7		MIB			

Frame No / SIB_POS	16	18	20	22	24	26	28	30
Block Type	MIB		SIB7/SIB 3	SIB1	MIB		SIB-F1	SIB5

Frame No / SIB_POS	32	34	36	38	40	42	44	46
Block Type	MIB	SIB5	SIB5/SIB 7/SIB11	SIB11	MIB	SIB11		

Frame No / SIB_POS	48	50	52	54	56	58	60	62
Block Type	MIB		SIB7		MIB			

Contents of Master Information Block PLMN type is the case of GSM-MAP

- MIB value tag	~~-~~ A valid MIB value tag as defined in TS 25.331
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity	
- MCC digit	Set to the same Mobile Country Codes stored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- MNC digit	Set to the same Mobile Network Codesstored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- ANSI-41 Core Network information	Not Present
- References to other system information blocks and scheduling blocks	
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	PLMN Value tag
- PLMN Value tag	~~-~~ A valid PLMN value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	22
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 1
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~-~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1

- SIB_REP	64
- SIB_POS	20
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 3
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	30
- SIB_POS offset info	
- SIB_OFF	4
- SIB_OFF	2
- SIB type	System Information Type 5
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	4
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	36
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	4
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1

- SIB_REP	64
- SIB_POS	28
- SIB_POS offset info	Not Present – use default
- SIB and SB type	System Information Type F1

Specific message content for "Maximum" configuration

The Maximum configuration is the same as the Configuration 1 System Information on 34.108, section 6 with some differences:

- A different schedule is used. Details below.
- SIB11 lists eight cells (one serving cell and seven neighbouring cells). Only the first two of these are considered relevant. It should also include some of the optional IE's to fit the scheduling information for maximum configuration.
- SIB6 and SIB12 includes some of the optional IEs even if having same values as correspondent IEs in SIB5 and SIB11 respectively (to fascilitate implementation of the test case for the Maximum configuration) to fit the scheduling information for maximum configuration.

Other characteristics of the Maximum configuration are:

- one "unknown future" block (SIB-F2) is included. This SIB is concatenated with another SIB and is used to verify that the UE can receive an Information Block that it does not support and still process the Information Blocks that it does support in the correct way.
- The test of the segment combination 9 is verified if the UE is able to read SIB7 and the first segment of SIB5 in position 4.
- The test of the segment combination 11 is verified if the UE is able to read the last segment of SIB 5. The SS ensures that this last segment shall have the length between 215 and 222 bits. Depending on the length of SIB 5, the combination 11 occurs either in SIB_position 6, or in the most cases in SIB_position 10

The following tables show (based on SIB_REP and SIB_POS in the MIB and SB) the schedule used for the Maximum configuration.

Table 2: The schedule in this table incorporates segment combinations 1, 2, 3, 5, 6, 8, 9, 11.

Block Type	MIB	SB1	SIB1	SIB2	SIB3	SIB4	SIB5	SIB6	SIB7	SIB11	SIB12	SIB18
SIB_REP	8	16	64	64	64	64	64	64	32	64	64	64
SEG_ COUNT	1	1	1	1	1	1	3	3	1	4	4	1

Frame No / SIB_POS	0	2	4	6	8	10	12	14
Block Type	MIB	SB1	SIB7/ SIB5	SIB5	MIB	SIB5	SIB3/SIB -F2	SIB11

Frame No / SIB_POS	16	18	20	22	24	26	28	30
Block Type	MIB	SB1	SIB11	SIB11	MIB	SIB11/SI B12	SIB12	SIB12

Frame No / SIB_POS	32	34	36	38	40	42	44	46
Block Type	MIB	SB1	SIB7/SIB 18	SIB12	MIB	SIB6	SIB6	SIB6/SIB 2

Frame No / SIB_POS	48	50	52	54	56	58	60	62
Block Type	MIB	SB1	SIB4		MIB	SIB1		

Contents of Master Information Block PLMN type is the case of GSM-MAP

Information Element	Value/remark
- MIB value tag	1 A valid MIB value tag as defined in TS 25.331
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity	
- MCC digit	Set to the same Mobile Country Codes stored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- MNC digit	Set to the same Mobile Network Codesstored in the test USIM card (TS 34.108 clause 8.3.2.2 EF IMSI(IMSI)).
- ANSI-41 Core Network information	Not Present
- References to other system information blocks and scheduling blocks	
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value Tag
- Cell Value tag	1 A valid Cell value tag as defined in TS 25.331
- Scheduling	
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	2
- SIB_POS offset info	Not Present – use default
- SIB type	Scheduling Block 1
- Scheduling information	
- CHOICE Value tag	PLMN Value tag
- PLMN Value tag	1 A valid PLMN value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	58
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 1
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1 A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	46
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 2
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1 A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	12
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 3
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1 A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	52
- SIB_POS offset info	Not Present – use default
- SIB type	System Information Type 4
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	1 A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	4
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	4
- SIB type	System Information Type 5

Contents of Scheduling Block 1 (FDD and TDD 1.28 Mcps option)

Information Element	Value/remark
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	42
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 6
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	32
- SIB_POS	4
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	4
- SIB_REP	64
- SIB_POS	14
- SIB_POS offset info	
- SIB_OFF	6
- SIB_OFF	2
- SIB_OFF	4
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	4
- SIB_REP	64
- SIB_POS	26
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB_OFF	8
- SIB and SB type	System Information Type 12
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	36
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type 18
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	12
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type F2

Contents of Scheduling Block 1 (TDD 3.84 Mcps option)

Information Element	Value/remark
- References to other system information blocks	
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	4

- SIB_REP	128
- SIB_POS	3
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 6
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	16
- SIB_POS	2
- SIB_POS offset info	Not Present
- SIB type SIBs only	System Information Type 7
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	29
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 11
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	3
- SIB_REP	64
- SIB_POS	13
- SIB_POS offset info	
- SIB_OFF	2
- SIB_OFF	2
- SIB and SB type	System Information Type 12
- Scheduling information	
- CHOICE Value tag	Cell Value tag
- Cell Value tag	~~1~~ A valid Cell value tag as defined in TS 25.331
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	54
- SIB_POS offset info	Not Present
- SIB type SB	System Information Type 18
- Scheduling information	
- CHOICE Value tag	Not Present
- SEG_COUNT	1
- SIB_REP	64
- SIB_POS	6
- SIB_POS offset info	Not Present
- SIB and SB type	System Information Type F2

Contents of System Information Block type F1

Information Element	Value/remark
Data	Arbitrary data with a size of 226 bits

Contents of System Information Block type F2

Information Element	Value/remark
Data	Arbitrary data with a size of 50 bits

NOTE: For these future System Information Block types one of the available spare values for SIB type should be used

Contents of SYSTEM INFORMATION BLOCK TYPE 6 (FDD)

- PICH Power offset	-5 dB
- CHOICE Mode	FDD
- AICH Power offset	-5 dB
- Primary CCPCH info	present
- PRACH system information list	
- PRACH system information	
- PRACH info	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SF	64
- Preamble scrambling code number	0
- Puncturing Limit	1.00
- 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	Configured
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	Configured
- 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	
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0 dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- CHOICE mode	FDD
- Gain factor ßc	11
- Gain factor ßd	15
- Reference TFC ID	0
- CHOICE Mode	FDD
- Power offset Pp-m	0 dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	Not Present
- 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 The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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
	The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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
	The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- ASC Setting	Not Present
- 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
	The first/ leftmost bit of the bit string contains the most significant bit of the Assigned Sub-Channel Number.
- 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 TX power	31
- Constant value	-10
- PRACH power offset	
- Power Ramp Step	3dB
- Preamble Retrans Max	4
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Channelisation code	3
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system information	
- Secondary CCPCH info	
- CHOICE mode	FDD
- Secondary scrambling code	1
- STTD indicator	FALSE
- Spreading factor	64
- Code number	1
- Pilot symbol existence	FALSE
- TFCI existence	TRUE (default value)
- Fixed or Flexible position	Flexible (default value)
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	4 bit
- CTFC information	0
- Power offset information	Not Present
- CTFC information	1

- Power offset information	Not Present
- CTFC information	2
- Power offset information	Not Present
- CTFC information	3
- Power offset information	Not Present
- CTFC information	4
- Power offset information	Not Present
- CTFC information	5
- Power offset information	Not Present
- CTFC information	6
- Power offset information	Not Present
- CTFC information	8
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	240
- Number of TB and TTI List	
- Number of Transport blocks	0
- 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	230
- CRC size	16 bit
- Transport Channel Identity	12 (for PCH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	168

- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- Number of Transport blocks	2
- 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	220
- CRC size	16 bit
- Transport Channel Identity	13 (for FACH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	360
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Turbo
- Rate matching attribute	130
- CRC size	16bit
- Transport Channel Identity	14 (for FACH)
- CTCH indicator	FALSE
- PICH info	
- CHOICE mode	FDD
- Channelisation code	2
- Number of PI per frame	18
- STTD indicator	FALSE
- CBS DRX Level 1 information	Not Present

Contents of SYSTEM INFORMATION BLOCK TYPE 11 (FDD)

- Sib12 Indicator	TRUE
- FACH measurement occasion info	Present
- Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	Not Present Absence of this IE is equivalent to default value 1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	TRUE
- CHOICE mode	FDD

- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	31
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	3
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Intra-frequency cell id	7
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.7 (FDD)" in clause 6.1.4
- Intra-frequency cell id	8
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.8 (FDD)" in clause 6.1.4
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter coefficient	Not present Absence of this IE is equivalent to the default value 0
- CHOICE mode	FDD
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	Not Present
- Maximum number of reported cells on RACH	Not Present
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE

- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Intra-frequency measurement reporting criteria	
- Parameters required for each event	3 kinds
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	2
- Replacement activation threshold	Present
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	

- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1b
- Triggering condition 1	Active set cells
- Triggering condition 2	Not Present
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Not Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	640
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1c
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
- Reporting Range Constant	Not Present
- Cells forbidden to affect Reporting range	Not Present
- W	Not Present
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	3
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency

- Maximum number of reported cells	3
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New inter-frequency cells	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 4
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.4 (FDD)" in clause 6.1.4
- Primary CPICH Tx power	31
- TX Diversity Indicator	FALSE
- Cell Selection and Re-selection Info	present (same values as for serving cell applies)
- Inter frequency cell id	5
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.5 (FDD)" in clause 6.1.4
- Inter frequency cell id	6

- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.6 (FDD)" in clause 6.1.4
- Cell for measurement	Not present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement identity	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	Not Present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodical trigger
- Report Criteria Sys Inf	
- Periodical Reporting Criteria	
- Reporting Amount	Inifinity
- Reporting interval	8000

Contents of SYSTEM INFORMATION BLOCK TYPE 12 (FDD)

- FACH measurement occasion info	Present
- Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP

- Intra-frequency measurement system information	
- Intra-frequency measurement identity	Not Present Absence of this IE is equivalent to default value 1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	31
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Present

- Intra-frequency cell id	3
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Intra-frequency cell id	7
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.7 (FDD)" in clause 6.1.4
- Intra-frequency cell id	8
- Cell info	Same content as specified for Intra-frequency cell id=1 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.8 (FDD)" in clause 6.1.4
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	
- Filter coefficient	Not present Absence of this IE is equivalent to the default value 0
- CHOICE mode	FDD
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	Not Present
- Maximum number of reported cells on RACH	Not Present
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	

- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	TRUE
- CHOICE mode	FDD
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Intra-frequency measurement reporting criteria	
- Parameters required for each event	3 kinds
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	2
- Replacement activation threshold	Present
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1b
- Triggering condition 1	Active set cells
- Triggering condition 2	Not Present

- Reporting Range Constant	5dB
- Cells forbidden to affect Reporting range	Not Present
- W	1.0
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	640
- Amount of reporting	Not Present
- Reporting interval	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Intra-frequency event identity	1c
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
- Reporting Range Constant	Not Present
- Cells forbidden to affect Reporting range	Not Present
- W	Not Present
- Hysteresis	0.0
- Threshold Used Frequency	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	3
- Time to trigger	640
- Amount of reporting	4
- Reporting interval	4000
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored set cells on used frequency
- Maximum number of reported cells	3
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	Not present (This IE shall be ignored by the UE for SIB11)

- New inter-frequency cells	
- Inter frequency cell id	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Not present Absence of this IE is equivalent to apply the default duplex distance defined for the operating frequency according to 25.101
- UARFCN downlink(Nd)	Reference to table 6.1.2 for Cell 4
- Cell info	
- Cell individual offset	Not present Absence of this IE is equivalent to default value 0dB
- Reference time difference to cell	0
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.4 (FDD)" in clause 6.1.4
- Primary CPICH Tx power	31
- TX Diversity Indicator	FALSE
- Cell Selection and Re-selection Info	present (same values as for serving cell applies)
- Inter frequency cell id	5
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.5 (FDD)" in clause 6.1.4
- Inter frequency cell id	6
- Frequency info	Not Present Absence of this IE is equivalent to value of the previous "frequency info" in the list.
- Cell info	Same content as specified for Inter-frequency cell id=4 with the exception that value for Primary scrambling code shall be according to clause titled "Default settings for cell No.6 (FDD)" in clause 6.1.4

- Cell for measurement	Not present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement identity	5
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	Not Present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodical trigger
- Report Criteria Sys Inf	
- Periodical Reporting Criteria	
- Reporting Amount	Inifinity
- Reporting interval	8000

8.1.10.1.5 Test requirement

After step 1 the UE shall have a call/session established in Cell 1.

After step 5 the UE shall have a call/session established in Cell 2.

ON RELEASE COMPLETE message on the uplink DCCH.

3GPP TSG-R5 Meeting #27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050914

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1149** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Addition of new Rel-5 RRC test cases to 34.123-1 for RRC Connection establishment using Default Radio Configurations
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI5
Date:	⌘	12/04/2005
Category:	⌘	**B**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	From Rel-5 onwards it is possible for a network to ask the UE to establish an RRC connection using the default radio configurations stored in the UE. This option has a positive impact on real network as it significantly reduces the RRC Connection Setup message size and therefore allows for faster and more reliable RRC connection & call setup. There is currently no test case coverage for the use of the Default Configurations at RRC Connection Setup in the test specifications. UE behaviour when using default configuration is defined in the core specification 25.331 section 8.1.3.6.
Summary of change:	⌘	2 new test cases are added to the test specification: • *8.1.2.14 RRC Connection Establishment using the default configuration for 3.4 kbps signalling bearers* • *8.1.2.15 RRC Connection Establishment using the default configuration for 13.6 kbps signalling bearers*
Consequences if not approved:	⌘	The use of default configurations at RRC connection establishment will remain untested.

Clauses affected:	⌘	8.1.2.14 (new), 8.1.2.15 (new)

Other specs affected:	⌘	Y	N		⌘	
			X	Other core specifications		
		X		Test specifications		34.123-2
			X	O&M Specifications		

Other comments:	⌘ Affects Rel-5 UEs.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

8.1.2.14 RRC Connection Establishment using the default configuration for 3.4 kbps signalling bearers

8.1.2.14.1 Definition

8.1.2.14.2 Conformance requirement

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

> if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Default configuration":

3> initiate the radio bearer and transport channel configuration in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity";

3> initiate the physical channels in accordance with the received physical channel information elements.

NOTE: IE "Default configuration mode" specifies whether the FDD or TDD version of the default configuration shall be used.

Reference

3GPP TS 25.331 clause 8.1.3.6, clause 13.7

8.1.2.14.3 Test purpose

To confirm that the UE establishes the radio bearer and transport channel configuration for 3.4kbps signalling radio bearers in accordance with the stored default parameters as identified by the IE “Default configuration identity” specified in the RRC Connection Setup Message

8.1.2.14.4 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 shall transmit a RRC CONNECTION REQUEST message to the SS on the uplink CCCH, after the operator attempts to make an outgoing call. SS shall send a RRC CONNECTION SETUP message that contains the stored default configuration identity 0 (for 3.4kbps signalling radio bearers). The UE accepts the message, configuring the radio bearer and transport channel configuration in accordance with the stored default parameters and acknowledges the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE message on uplink DCCH.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				Operator is asked to make an outgoing call.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	DefaultConfigIdentity used is '0'
4	→		RRC CONNECTION SETUP COMPLETE	
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state the test passes, otherwise it fails.

Specific Message Contents

RRC CONNECTION REQUEST (Step 2)

The same message sub-type found in clause 9 of TS 34.108 applies, 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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call

RRC CONNECTION SETUP (Step 3)

Use the same message sub-type found in clause 9 of TS 34.108 (Transition to CELL_DCH), with the following exceptions:

Information Element	Value/remark
Choice Specification Mode	Default Configuration Mode
Default Config Identity	0

RRC CONNECTION SETUP COMPLETE (Step 4)

Use the same message sub-type found in clause 9 of TS 34.108.

8.1.2.14.5 Test requirement

In step 4 the UE shall transmit a RRC CONNECTION SETUP COMPLETE message on Radio Bearer Id: 2 and establish a RRC connection.

8.1.2.15 RRC Connection Establishment using the default configuration for 13.6 kbps signalling bearers

8.1.2.15.1 Definition

8.1.2.15.2 Conformance requirement

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

2> if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Default configuration":

3> initiate the radio bearer and transport channel configuration in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity";

3> initiate the physical channels in accordance with the received physical channel information elements.

NOTE: IE "Default configuration mode" specifies whether the FDD or TDD version of the default configuration shall be used.

Reference

3GPP TS 25.331 clause 8.1.3.6, clause 13.7

8.1.2.15.3 Test purpose

To confirm that the UE establishes the radio bearer and transport channel configuration for 13.6kbps signalling radio bearers in accordance with the stored default parameters as identified by the IE “Default configuration identity” specified in the RRC Connection Setup Message

8.1.2.15.4 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 shall transmit a RRC CONNECTION REQUEST message to the SS on the uplink CCCH, after the operator attempts to make an outgoing call. SS shall send a RRC CONNECTION SETUP message that contains the stored default configuration identity 1 (for 13.6kbps signalling radio bearers). The UE accepts the message, configuring the radio bearer and transport channel configuration in accordance with the stored default parameters and acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE message on uplink DCCH.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				Operator is asked to make an outgoing call.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	DefaultConfigIdentity used is ‘1’
4	→		RRC CONNECTION SETUP COMPLETE	
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state the test passes, otherwise it fails.

Specific Message Contents

RRC CONNECTION REQUEST (Step 2)

The same message sub-type found in clause 9 of TS 34.108 applies, 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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call or Originating Conversational Call

RRC CONNECTION SETUP (Step 3)

Use the same message sub-type found in clause 9 of TS 34.108 (Transition to CELL_DCH), with the following exceptions:

Information Element	Value/remark
Choice Specification Mode	Default Configuration Mode
Default Config Identity	1

RRC CONNECTION SETUP COMPLETE (Step 4)

Use the same message sub-type found in clause 9 of TS 34.108

8.1.2.15.5 Test requirement

In step 4 the UE shall transmit a RRC CONNECTION SETUP COMPLETE message on Radio Bearer Id: 2 and establish an RRC connection.

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Tdoc ⌘R5-050915

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1150** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to RRC test case 8.1.1.10 (GCF Work Item 12)
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	26/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6 *(Release 6)*

Reason for change: ⌘

1) T1#26 CR T1-050273 introduced the incorrect CTFC list in the specific message content for System Information Block type 6.

2) The test purpose states:

"To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message in which the IE "Used paging identity" is set to "UTRAN identity", and the UE takes the U-RNTI value assigned to it in the IE "U-RNTI".

As per the specific message content for paging type 1 message at Step 3, 4 and 8 a different IMSI value than that stored in the U-SIM shall be used.

In order to test that the UEs in CELL_FACH respond to paging message only for a correct "UTRAN identity", the paging message should be transmitted with correct IMSI.

Summary of change: ⌘

1) In the specific message contents for System Information Block type 6, CTFC list is updated.

2) In the specific message contents for paging type 1 message at steps 3, 4 and 8, the value of "IMSI" in "paging record 1" is changed to "the value stored in the U-SIM card".

Consequences if not approved: ⌘ Incorrect Specification.

Clauses affected:	⌘	8.1.1.10.4			
		Y	**N**		
Other specs Affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	This CR does not require TTCN change.			

How to create CRs using this form:

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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.

<< START OF MODIFIED SECTION >>

8.1.1.10 Paging for Connection in connected mode (URA_PCH, multiple paging records)

8.1.1.10.1 Definition

8.1.1.10.2 Conformance requirement

A UE in idle mode, CELL_PCH state or URA_PCH state shall receive the paging information for all its monitored paging occasions. For an UE in idle mode, the paging occasions are specified in [25.304] and depend on the IE "CN domain specific DRX cycle length coefficient", as specified in subclause 8.6.3.1a. For a UE in CELL_PCH state or URA_PCH state, the paging occasions depend also on the IE "UTRAN DRX cycle length coefficient" and the IE "RRC State Indicator", as specified in subclauses 8.6.3.2 and 8.6.3.3 respectively.

When the UE receives a PAGING TYPE 1 message, it shall perform the actions as specified below.

:

If the UE is in connected mode, for each occurrence of the IE "Paging record" included in the message the UE shall:

1> if the IE "Used paging identity" is a UTRAN identity and if this U-RNTI is the same as the U-RNTI allocated to the UE:

2> if the optional IE "CN originated page to connected mode UE" is included:

3> indicate reception of paging; and

3> forward the IE "CN domain identity", the IE "Paging cause" and the IE "Paging record type identifier" to the upper layers.

2> otherwise:

3> perform a cell update procedure with cause "paging response" as specified in subclause 8.3.1.2.

2> ignore any other remaining IE "Paging record" that may be present in the message.

1> otherwise:

2> ignore that paging record.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.2, 8.3.1.7.

8.1.1.10.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message in which the IE "Used paging identity" is set to "UTRAN identity", and the UE takes the U-RNTI value assigned to it in the IE "U-RNTI".

8.1.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell. PICH is configured with “Number of PI per frame” set to 72.

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 SYSTEM INFORMATION BLOCK TYPE 6 messages with a modified PCH configuration. The SS then transmits a PAGING TYPE 1 message, which includes a matched IMSI, but the UE does not respond since it is in connected mode. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI but in a paging occasion not accrding to the DRX cycle of the UE. The UE does not reply. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI in a correct paging occasion. 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. The SS sends the UE back to URA_PCH state using CELL UPDATE CONFIRM and also modifies the UTRAN DRX cycle length for the UE. The SS then transmits a PAGING TYPE 1 message using the new paging occasions. The UE replies to this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		

1	←	SYSTEM INFORMATION BLOCK TYPE 6, MASTER INFORMATION BLOCK	See specific message contents
1a	←	PAGING TYPE 1	SS transmits the message including the IE "BCCH Modification Information", with the "Value Tag" as 2.
2	←	PAGING TYPE 1	The SS transmits the message that includes a matched CN UE identity, but the UE does not respond.
3	←	PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity but in a paging occasion not according to the DRX cycle of the UE.
4	←	PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity in the correct paging occasion.
5	→	CELL UPDATE	The UE enters the CELL_FACH state.
6	←	CELL UPDATE CONFIRM	See message content.
7	→	UTRAN MOBILITY INFORMATION CONFIRM	After transmitting this message, the UE returns to URA_PCH state and changes its UTRAN DRX cycle.
8	←	PAGING TYPE 1	The SS transmits the message that includes a matched UTRAN UE identity, using a paging occasion which is included in the new DRX cycle, but not in the old DRX cycle.
9	→	CELL UPDATE	The UE enters the CELL_FACH state.
10	←	CELL UPDATE CONFIRM	See message content.
11	→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 6 (Step 1)

Use the default message type found in clause 6.1 of TS 34.108, except for the following.

Information Element	Value/remark
- Secondary CCPCH info	
- CHOICE mode - Secondary scrambling code	FDD Not Present
- STTD indicator - Spreading factor	FALSE 64
- Code number - Pilot symbol existence	1 FALSE
- TFCI existence - Fixed or Flexible position	TRUE Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- CHOICE TFCI signalling	Normal
- TFCI Field 1 information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfiguration information	
- CHOICE CTFC Size	4 bit
~~- Power offset information~~	~~Not Present~~
- CTFC information	~~1~~0
- Power offset information	Not Present
- CTFC information	~~2~~1

- Power offset information	Not Present
- CTFC information	~~3~~2
- Power offset information	Not Present
- CTFC information	~~4~~3
- Power offset information	Not Present
- CTFC information	~~5~~4
- Power offset information	Not Present
- CTFC information	~~6~~5
- Power offset information	Not Present
- CTFC information	~~7~~6
- Power offset information	Not Present
- CTFC information	8
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	240
- Number of TB and TTI List	
- Number of Transport blocks	0
- 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	230
- CRC size	16 bit
- Transport Channel Identity	12 (for PCH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	168
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- Number of Transport blocks	2
- 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	220
- CRC size	16 bit
- Transport Channel Identity	13 (for FACH)
- CTCH indicator	FALSE
- TFS	(FACH)
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC Size	360
- Number of TB and TTI List	
- Number of Transport blocks	0
- Number of Transport blocks	1
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	10 ms
- Type of channel coding	Turbo
- Rate matching attribute	130
- CRC size	16bit
- Transport Channel Identity	14 (for FACH)
- CTCH indicator	FALSE
PICH Info	
- CHOICE mode	FDD
- Channelisation code	2

- Number of PI per frame	72
- STTD indicator	FALSE

MASTER INFORMATION BLOCK (Step 1)

Information Element	Value/remark
MIB Value tag	2

PAGING TYPE 1 (STEP 1a)

Information Element	Value/remark
Message Type	
Paging record list	Not Present
BCCH modification info	
MIB Value Tag	2
BCCH Modification time	Not Present

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record 1	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	A Registered Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card.
- Paging record 2	
- 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 (Steps 3, 4 and 8)

Information Element	Value/remark
Message Type Paging record list - Paging record 1 - CHOICE Used paging identity - Paging cause - CN domain identity - CHOICE UE Identity - IMSI - Paging record 2	 CN identity Terminating Call with one of the supported services A Registered Domain (PS Domain or CS Domain) IMSI ~~Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the TEST USIM card.~~ Set to the octet string which is the same as the IMSI value stored in the USIM card.
- 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
- Paging record 3 - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI - CN originated page to connected mode UE BCCH modification info	 UTRAN identity Set to the previously assigned SRNC identity Set to previously assigned S-RNTI Not Present Not Present

CELL UPDATE CONFIRM (Step 6)

Use the message sub-type in default message content defined in [9] (TS 34.108) Clause 9, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'
RRC State Indicator	URA_PCH
UTRAN DRX Cycle length coefficient	4

UTRAN MOBILITY INFORMATION CONFIRM (Step 7)

Only the message type is checked.

CELL UPDATE CONFIRM (Step 10)

Use the message sub-type in default message content defined in [9] (TS 34.108) Clause 9, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

8.1.1.10.5 Test requirement

After steps 2 and 3 the UE shall not respond to the paging.

After steps 4 and 8 the UE shall enter the CELL FACH state, and transmit CELL UPDATE message to initiate the cell updating procedure with the cell update cause set to "paging response".

After steps 6 and 10 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message.

<< END OF MODIFIED SECTION >>

3GPP TSG-R5 Meeting #27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050555

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1151** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to RRC Package 2 testcase 8.2.2.9
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	In the testcase at step 2, the Radio Bearer Reconfiguration message is sent to UE with activation time as NULL and the UE may take time for cell selection after receiving the Radio Bearer Reconfiguration message. Hence the UE may not be able to send RLC ACK for Radio Bearer Reconfiguration message before an RLC reset occurs at the SS.
Summary of change:	⌘	In order to overcome this, the timer poll for local end configuration is increased to 800ms to allow the SS to receive the RLC ACK from UE for the Radio Bearer Reconfiguration message. In the section 8.2.2.9.4, initial condition, the following note is added: "The 'timer poll' value in the SS RLC transmit entity should be set to 800 ms."
Consequences if not approved:	⌘	Test Case may incorrectly fail a conformant UE.

Clauses affected:	⌘	8.2.2.9.4

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	This CR requires change in TTCN.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

<< START OF MODIFIED SECTION >>

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

If the UE receives:

- a RADIO BEARER RECONFIGURATION message; or

it shall:

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in TS 25.214 (for FDD only);

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to subclause 8.6.3.3.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4] on that frequency.

1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

2> initiate a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

1> select PRACH according to subclause 8.5.17;

1> select Secondary CCPCH according to subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

…

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

…

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.3.1.7, 8.2.2.4.

8.2.2.9.3 Test purpose

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

8.2.2.9.4 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: The 'timer poll' value in the SS RLC transmit entity should be set to 800 ms.

Test Procedure

The UE is in CELL_DCH state. 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 selects another cell than 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 DCCH after receiving a CELL UPDATE message. The UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		

1		Void	
2		Void	
3	←	RADIO BEARER RECONFIGURATION	Assign a 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	See message content.
6	→	UTRAN MOBILITY INFORMATION CONFIRM	
7	→	RADIO BEARER RECONFIGURATION COMPLETE	
8	←→	CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

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 clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B
RB information to reconfigure list	
- RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	600
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	250
- Timer_poll	250
- Poll_PDU	Not present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	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	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	600
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	250
- Timer_poll	250
- Poll_PDU	Not present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	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	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	600
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	250
- Timer_poll	250
- Poll_PDU	Not present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not Present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	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	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	600
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	250
- Timer_poll	250
- Poll_PDU	Not Present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not Present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	Not Present
- RB mapping info	Not Present
- RB stop/continue	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
Downlink information per radio link list	
- Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 2

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 clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info	4 Set to same as used for cell 2

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)

Use the same message type found in clause Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type is checked.

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, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message and then followed by RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

<< END OF MODIFIED SECTION >>

3GPP TSG-RAN WG5 Meeting #27
Bath, UK, April 25th - 29th, 2005

Tdoc ⌘R5-050623

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1152** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 Rel-5; Correction to SRNS relocation test case 8.2.2.43
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	18/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The IE "Downlink Counter Synchronisation Info" is not present in the RADIO BEARER RECONFIGURATION message.
Summary of change:	⌘	The IE "Downlink Counter Synchronisation Info" is removed from the RADIO BEARER RECONFIGURATION message in test case 8.2.2.43.
Consequences if not approved:	⌘	Misalignment with the core specification.

Clauses affected:	⌘	8.2.2.43

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	Affects Rel-5.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

8.2.2.43 Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Seamless SRNS relocation, without pending of ciphering, frequency band modification)

8.2.2.43.1 Definition

8.2.2.43.2 Conformance requirement

1> if the reconfiguration procedure is simultaneous with SRNS relocation procedure:

2> if the transmitted message is a RADIO BEARER RECONFIGURATION:

3> include the IE "New U-RNTI".

The UE shall:

1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:

2> re-establish the RLC entity for RB2;

2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);

2> increment by one the downlink and uplink values of the HFN component of COUNT-C for RB2;

2> calculate the START value according to subclause 8.5.9 in TS 25.331;

2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".

1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If the new state is CELL_DCH or CELL_FACH, the response message shall be transmitted using the new configuration after the state transition, and the UE shall:

1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:

2> when RLC has confirmed the successful transmission of the response message:

3> re-establish all AM and UM RLC entities with RB identities larger than 4 and set the first 20 bits of all the HFN component of the respective COUNT-C values to the START value included in the response message for the corresponding CN domain;

3> re-establish the RLC entities with RB identities 1, 3 and 4 and set the first 20 bits of all the HFN component of the respective COUNT-C values to the START value included in the response message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;

3> set the remaining bits of the HFN component of COUNT-C values of all UM RLC entities to zero;

3> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in TS 25.323.

…

The UE shall:

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was not included SECURITY MODE COMMAND:

NOTE: This case is used in SRNS relocation and in handover from GERAN *Iu mode*.

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 in TS 25.331 by:

3> using the algorithm (UIA [TS 33.102]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [TS 33.102].

2> let RBm be the signalling radio bearer where the reconfiguration message was received and let RBn be the signalling radio bearer where the response message is transmitted;

2> for the downlink, for each signalling radio bearer, if for the signalling radio bearer, a security configuration triggered by a previous SECURITY MODE COMMAND has not yet been applied, due to the activation time for the signalling radio bearer not having been reached:

3> set "Down link RRC Message sequence number" for this signalling radio bearer in the variable INTEGRITY_PROTECTION_INFO to (activation time -1), where the activation time is the corresponding activation time for this signalling radio bearer;

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new integrity protection configuration to include the received new keys.

3> else if the previous SECURITY MODE COMMAND caused a change in LATEST_CONFIGURED_CN_DOMAIN:

4> consider the new Integrity Protection configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN associated with the previously received SECURITY MODE COMMAND.

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RBm at the next received RRC message for the corresponding signalling radio bearer;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RBm from and including the received configuration message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RBn from and including the transmitted response message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RBn from the first message onwards.

Reference

3GPP TS 25.331 clause 8.2.2, .8.6.3.5.2.

8.2.2.43.3 Test purpose

1. To confirm that the UE performs a combined inter-frequency hard handover and SRNS relocation and then transmit a RADIO BEARER RECONFIGURATION COMPLETE message in the new cell.

2. To confirm that the UE correctly applies integrity protection after the SRNS relocation.

3. To confirm that the UE accepts a gap in the downlink RRC message sequence numbering for integrity protection on signalling radio bearer 3 after SRNS relocation.

4. In the case that ciphering is applied by the network, to confirm that the UE restarts ciphering following a successful SRNS relocation.

8.2.2.43.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and 6

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

Test Procedure

Table 8.2.2.43

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec (FDD)	dBm/3.84MHz	-60	-75	-75	-60

Table 8.2.2.43 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 in the CELL_DCH state, camping onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in table 8.2.2.43. The SS sends a RADIO BEARER RECONFIGURATION message requesting the UE to do a timing re-initialised inter-frequency hard handover combined with SRNS relocation. This message includes the IE "RRC State Indicator" set to "CELL_DCH", IE “New U-RNTI”, the IE “Integrity protection mode info” and the IE “Timing Indication” set to “initialise”.

UE shall reselect to cell 6 and SS verifies that the UE sends RADIO BEARER RECONFIGURATION COMPLETE message. This message also includes a calculated new START value according to the formula “$START_X' = MSB_{20}$ (MAX {COUNT-C, COUNT-I | radio bearers and signalling radio bearers using the most recently configured CK_X and IK_X}) + 2”, a calculated IE ”Integrity Check Info” using a new FRESH value as included in IE “Integrity protection initialisation number” in the IE “Integrity protection mode info” in the RADIO BEARER RECONFIGURATION message and a COUNT-I that includes subsequent HFN as used in the old integrity protection configuration.

SS then send IDENTITY REQUEST message on the DCCH using RLC-AM (SRB3) in order to confirm that the UE can communicate on SRB3 by using new integrity protection configuration, including using a gap in the downlink RRC message sequence number. The UE shall respond with an IDENTITY RESPONSE message on the uplink DCCH using RLC-AM (SRB3).

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.43.
2	←		RADIO BEARER RECONFIGURATION	If IE "Ciphering mode info" is present in the SECURITY MODE COMMAND during initial condition set-up, this message is sent after last ciphering activation time has elapsed and there is no pending ciphering activation time. New integrity protection configuration is applied on DL SRB2. LAI and RAI of cell 6 are given to the UE, and are the same as cell 1.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE shall transmit this message after it reselects to cell 6. New calculated START value is included. New integrity protection configuration is applied on UL SRB2.
4	←		DOWNLINK DIRECT TRANSFER	NAS message embedded in this is IDENTITY REQUEST. New integrity protection configuration is applied on DL SRB3.
5	→		UPLINK DIRECT TRANSFER	NAS message embedded in this is IDENTITY RESPONSE. SS confirms that new integrity protection configuration is applied on UL SRB3 by UE. SS uses a gap in the downlink RRC message sequence numbering.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 2) – for PS domain testing only

Use the same message sub-type found in [9] TS 34.108 clause 9, which is entitled "Packet to CELL_DCH from CELL_DCH in PS", with the following exception:

Information Element	Value/remark
Integrity protection mode info	
- Integrity protection mode command	Start
- Downlink integrity protection activation info	Not Present
- Integrity protection algorithm	UIA1
- Integrity protection initialisation number	SS selects an arbitrary 32 bits number for FRESH

Activation time	Not present
New U-RNTI - SRNC identity - S-RNTI	 0000 0000 0010B 0000 0000 0000 0000 0001B
CN Information info - PLMN identity - CN common GSM-MAP NAS system information - GSM-MAP NAS system information - CN domain related information - CN domain identity - CN domain specific NAS system information - GSM-MAP NAS system information - CN domain identity - CN domain specific NAS system information - GSM-MAP NAS system information	 Not present 00 01H PS 05 00H CS 1E 01H
RB information to reconfigure list - RB information to reconfigure - RB identity - PDCP info - PDCP SN info - RLC info - RB mapping info - RB stop/continue - RB information to reconfigure - RB identity - PDCP info - PDCP SN info - RLC info - RB mapping info - RB stop/continue - RB information to reconfigure - RB identity - PDCP info	 (UM DCCH for RRC) 1 Not Present Not Present Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108. Not Present (AM DCCH for RRC) 2 Not Present Not Present Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108. Not Present (AM DCCH for NAS_DT High priority) 3 Not Present

- PDCP SN info	Not Present
- RLC info - RB mapping info	Values as specified for the IE "Signalling RB information to setup" for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- 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 - RB mapping info	Values as specified for the IE "Signalling RB information to setup" for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- 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 - RB mapping info	Values as specified for the IE "RB information to setup" for the corresponding radio bearer for the case "Packet to CELL_DCH from CELL_DCH in PS" in the default RADIO BEARER SETUP message in TS 34.108.
- RB stop/continue	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing indicator	Initialise
- MAC-d HFN initial value	Not present
- 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

- DPCH compressed mode info	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary set to value 0..306688 by step of 512
~~Downlink counter synchronisation info~~ ~~- RB with PDCP information list~~	~~Not Present.~~
Frequency info CHOICE mode - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 FDD Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6
Downlink information per radio link list -Downlink information for each radio link - 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 - 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 - SCCPCH information for FACH	 FDD Set to same code as used for cell 6 Not Present Not Present Primary CPICH may be used Set to value Default DPCH Offset Value (as currently stored in SS) mod 38400 Not Present 2 Reference to TS34.108 clause 6.10 Parameter Set 0 No change 0 Not Present Not Present Not Present

RADIO BEARER RECONFIGURATION (Step 2) – for CS domain testing only

Use the same message sub-type found in [9] TS 34.108 clause 9, which is entitled “Non speech in CS” or “Speech in CS”, with the following exception:

Information Element	Value/remark
Integrity protection mode info	
- Integrity protection mode command	Start
- Downlink integrity protection activation info	Not Present
- Integrity protection algorithm	UIA1
- Integrity protection initialisation number	SS selects an arbitrary 32 bits number for FRESH
Activation time	Not present
New U-RNTI	
- SRNC identity	0000 0000 0010B
- S-RNTI	0000 0000 0000 0000 0001B
CN Information info	
- PLMN identity	Not present
- CN common GSM-MAP NAS system information	
- GSM-MAP NAS system information	00 01H
- CN domain related information	
- CN domain identity	PS
- CN domain specific NAS system information	
- GSM-MAP NAS system information	05 00H
- CN domain identity	CS
- CN domain specific NAS system information	
- GSM-MAP NAS system information	1E 01H
RB information to reconfigure list	
- RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- RB mapping info	
- 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	Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- RB mapping info	
- 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	Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- RB mapping info	
- 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	Values as specified for the IE “Signalling RB information to setup” for the corresponding radio bearer in the default RRC CONNECTION SETUP message (Transition to CELL_DCH) in TS 34.108.
- RB mapping info	
- RB stop/continue	Not Present
- RB information to reconfigure	
- RB identity	10
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Values as specified for the IE “RB information to setup” for the corresponding radio bearer for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
- RB mapping info	
- RB information to reconfigure	
- RB identity	11
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Values as specified for the IE “RB information to setup” for the corresponding radio bearer for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
- RB mapping info	
- RB information to reconfigure	

- RB identity - PDCP info - PDCP SN info - RLC info - RB mapping info	12 Not Present Not Present Values as specified for the IE “RB information to setup” for the corresponding radio bearer for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
UL Transport channel information for all transport channels	Values as specified for the corresponding IE for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
Added or Reconfigured UL TrCH information	Values as specified for the corresponding IE for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
DL Transport channel information common for all transport channel	Values as specified for the corresponding IE for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
Added or Reconfigured DL TrCH information	Values as specified for the corresponding IE for the case "Speech to CELL_DCH from CELL_DCH in CS" in the default RADIO BEARER SETUP message in TS 34.108.
Frequency info CHOICE mode - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 FDD Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6
Downlink information common for all radio links - Downlink DPCH info common for all RL - Timing indicator - MAC-d HFN initial value - 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	 Initialise Not present 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

- CHOICE SF	Reference to TS34.108 clause 6.10 Parameter Set
- DPCH compressed mode info	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary set to value 0..306688 by step of 512
~~Downlink counter synchronisation info~~ ~~- RB with PDCP information list~~	~~Not Present.~~
Downlink information per radio link list -Downlink information for each radio link	
- Choice mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- 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	Set to value Default DPCH Offset Value (as currently stored in SS) mod 38400
- 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	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

RADIO BEARER RECONFIGURATION COMPLETE (Step 3) – for PS domain testing only

Check that the UE uses the same message sub-type found in TS 34.108 clause 9, with the following exception.

Information Element	Value/remark
Uplink counter synchronisation info - RB with PDCP information list	Not present

- START list	Check that this IE is present.

RADIO BEARER RECONFIGURATION COMPLETE (Step 3) – for CS domain testing only

Check that the UE uses the same message sub-type found in TS 34.108 clause 9, with the following exception.

Information Element	Value/remark
COUNT-C activation time	Check that this IE is present.
Uplink counter synchronisation info	
- RB with PDCP information list	Not present
- START list	Check that this IE is present.

DOWNLINK DIRECT TRANSFER (Step 4)

Use the same message content as found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
RRC Message sequence number	Current RRC SN + 3
CN domain identity	CS domain or PS domain (whichever applicable)
NAS message	IDENTITY REQUEST

NOTE: "Current RRC SN" is defined as the RRC message sequence number of the next transmitted RRC message on the particular radio bearer.

8.2.2.43.5 Test requirement

After step 2, the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC which includes a calculated new START value according to the formula "$START_X' = MSB_{20}$ (MAX {COUNT-C, COUNT-I | radio bearers and signalling radio bearers using the most recently configured CK_X and IK_X}) + 2", calculated IE "Integrity Check Info" using the new FRESH value as included in IE "Integrity protection initialisation number" in IE "Integrity protection mode info" in RADIO BEARER RECONFIGURATION message and COUNT-I that includes subsequent HFN as used in the old integrity protection configuration. The UE, further more, shall apply the new ingerity protection configuration for the first received/sent RRC message on SRB0, SRB3, and SRB4 after receiving the RADIO BEARER RECONFIGURATION message (i.e. immediately). For SRB2 the new integrity protection configuration shall be applied from and including the received RADIO BEARER RECONFIGURATION message (DL) and the sent RADIO BEARER RECONFIGURATION COMPLETE message (UL).

After step 3, the UE shall respond with an IDENTITY RESPONSE message to SS and apply the new integrity protection configuration on this message.

3GPP TSG RAN WG5 #27
Bath, England, 25 - 29 April, 2005

Tdoc ⌘ R5-050637

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1153** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to P4 RRC test case 8.2.6.38
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	12/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)
Rel-6 (Release 6)

Reason for change:	⌘	The value of the IE "TFCI Combining Indicator" in "Radio Link addition information" is marked as Not present in the specific message content "ACTIVE SET UPDATE" (Step 3).This parameter is a mandatory field with type Boolean.
Summary of change:	⌘	The value of the IE "TFCI combining indicator" is changed to 'FALSE' in the specific message content "ACTIVE SET UPDATE" (Step 3).
Consequences if not approved:	⌘	Prose will be incorrect

Clauses affected:	⌘	8.2.6.38.4
Other specs affected:	⌘	Y N ☐ ☒ Other core specifications ☒ ☐ Test specifications ☐ ☒ O&M Specifications
	⌘	
Other comments:	⌘	No change to TTCN required

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

8.2.6.38 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised): Failure (Physical channel failure and reversion to old channel)

8.2.6.38.1 Definition

8.2.6.38.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

…

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

…

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.7, 8.2.2.9, 8.5.4.

8.2.6.38.3 Test purpose

To confirm that the UE reverts to the old configuration (including measurement configurations, ciphering procedures and compressed mode configurations if required) 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 before timer T312 expiry.

8.2.6.38.4 Method of test

Initial Condition

System Simulator: 4 cells – Cell 1 and cell 2 on frequency f_1, cell 4 on frequency $f_2$and cell 5 on frequency f_3.

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 supported by the UE. If the UE supports both CS and PS domains, the test case shall be run twice, once starting from state 6-9, once starting from state 6-10. Ciphering shall be activated.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.2.6.38-1 illustrates the downlink power to be applied for the 4 cells, as well as the frequency and scrambling code for each cell.

Table 8.2.6.38-1a

Parameter	Unit	Cell 1					Cell 2				
Frequency		f_1					f_1				
Scrambling code		Scrambling code 1					Scrambling code 2				
		T0	T1	T2	T3	T4	T0	T1	T2	T3	T4
CPICH Ec	dBm/3.84 MHz	-60	-60	-75	-60	-75	-95	-60	-75	-60	-75

Table 8.2.6.38-1b

Parameter	Unit	Cell 4					Cell 5				
Frequency		f_2					f_3				
Scrambling code		Scrambling code 3					Scrambling code 4				
		T0	T1	T2	T3	T4	T0	T1	T2	T3	T4
CPICH Ec	dBm/3.84 MHz	-60	-60	-60	OFF	-70	-60	-60	-70	OFF	-60

The UE is initially in CELL_DCH, and has only cell 1 in its active set.

At instant T1, the downlink power is changed according to what is shown in table 8.2.6.38 -1. Cell 2 should then trigger event 1a as has been configured through the default System Information Block Type 11. The UE shall thus send a MEASUREMENT REPORT to the SS, triggered by cell 2.

The SS adds then cell 2 to the active set of the UE, by sending an ACTIVE SET UPDATE message to the UE. The UE shall answer with an ACTIVE SET UPDATE COMPLETE message.

The SS then configures compressed mode, (if required by the UE) to prepare the UE for inter-frequency measurements, by sending a PHYSICAL CHANNEL RECONFIGURATION message on DCCH using AM-RLC. The UE shall answer with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

The SS then sets up inter-frequency measurements (event 2b), by sending a MEASUREMENT CONTROL message to the UE. Compressed mode is started at the same time in that message, (if required).

At instant T2, the downlink power is changed according to what is shown in table 8.2.6.38-1. Frequency f_2 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

At instance T3, the downlink power is changed according to what is shown in table 8.2.6.38-1.

SS then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 4 on frequency f_2.

The UE shall revert to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the SS on the DCCH using AM RLC, with the value "physical channel failure" in the IE "failure cause".

At instant T4, the downlink power is changed according to what is shown in table 8.2.6.38-1. Frequency f_3 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS changes the power of the cells according to column T1 in table 8.2.6.38-1.
2	→		MEASUREMENT REPORT	Event 1a is triggered by cell 2 in the UE, which sends a MEASUREMENT REPORT message to the SS.
3	←		ACTIVE SET UPDATE	The SS adds cell 2 to the active set of the UE.
4	→		ACTIVE SET UPDATE COMPLETE	The UE answers with an ACTIVE SET UPDATE COMPLETE message to the SS.
5	←		PHYSICAL CHANNEL RECONFIGURATION	The SS downloads the compressed mode parameters in the UE, (if required).
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE acknowledges the downloading of the compressed mode parameters (only if compressed mode was configured).
7	←		MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE, and activates compressed mode (if required).
8				The SS changes the power of the cells according to column T2 in table 8.2.6.38-1.
9	→		MEASUREMENT REPORT	Frequency f_2 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.
				The SS changes the power of the cells according to column T3 in table 8.2.6.38-1.
10	←		PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 4 on frequency f_2.
11	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expires, the UE shall revert to the old channel and transmits this message.

12			The SS changes the power of the cells according to column T4 in table 8.2.6.38-1.
13	→	MEASUREMENT REPORT	Frequency f_3 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT REPORT (Step 2)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Scrambling code 1 (or scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2 (or scrambling code 1 if the previous scrambling code included by the UE was scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2

ACTIVE SET UPDATE (Step 3)

Information Element	Value/Remark
Radio link addition information	

- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2
- Downlink DPCH info for each RL	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	Not Present
- Spreading factor	Refer to TS 34.108 clause 6.10.2.4 "Typical radio parameter sets"
- Code Number	Any value between 0 and Spreading factor-1 (use different values for each DPCH in case several DPCHs are allocated to the UE).
- 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~~FALSE
- SCCPCH information for FACH	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 5 for the CS case)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	Not Present
Downlink counter synchronisation info	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	
- Downlink DPCH info common for all RL	Not Present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not Present
- TGD	undefined
- TGPL1	3
- TGPL2	Not Present
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)
- Downlink compressed mode method	SF/2 (or not sent, depending on the UE capability)

- Uplink compressed mode method	SF/2 (or not sent, depending on the UE capability)
- Downlink frame type	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	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Not Present
Downlink information per radio link list	2 radio links
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 1
- Cell ID	Not present
- 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
- Secondary CPICH info	Not present
- DL channelisation code	
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Same as the code currently allocated to the UE in cell 1
- Scrambling code change	Code change
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 2
- Cell ID	Not present
- 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
- Secondary CPICH info	Not present
- DL channelisation code	
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Same as the code currently allocated to the UE in cell 2
- Scrambling code change	No code change
- TPC combination index	0

PHYSICAL CHANNEL RECONFIGURATION MESSAGE (Step 5 for the PS case)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
UTRAN DRX cycle length coefficient	Not Present

CN information info	Not Present
URA identity	Not Present
Downlink counter synchronisation info	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	
- Downlink DPCH info common for all RL	Not Present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not Present
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not Present
- TGD	undefined
- TGPL1	3
- TGPL2	Not Present
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)
- Downlink compressed mode method	HLS(or not sent, depending on the UE capability)
- Uplink compressed mode method	HLS(or not sent, depending on the UE capability)
- Downlink frame type	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	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Not Present
Downlink information for each radio link	Not Present

MEASUREMENT CONTROL (Step 7)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodical 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	2 inter-frequency cells
- Inter-frequency cell id	4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_2
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2

- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Inter-frequency cell id	5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_3
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	Not present
- Primary Scrambling Code	Scrambling code 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	Not present
- 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	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	
- UE autonomous update	On with no reporting
- Non autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2b
- Threshold used frequency	-70 dBm
- W used frequency	0.0
- Hysteresis	1.0 dB
- Time to trigger	100 ms
- Reporting cell status	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per reported non-used frequency	2
- Parameters required for each non-used frequency	
- Threshold non used frequency	-65 dBm
- W non-used frequency	0
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Activate
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 1 cell reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3

PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
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	FDD
- UARFCN uplink (Nu)	Not present
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
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	
- Downlink DPCH info common for all RL	
- Timing indication	Initialise
- CFN-targetSFN frame offset	0
- Downlink DPCH power control information	Not Present
- Downlink 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
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present
- TX Diversity mode	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary value between 0..306688 by step of 512
Downlink information per radio link list	1 radio link
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 3
- Cell ID	Not present
- 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	Set to value of DPCH Frame Offset modulo 38400
- Secondary CPICH info	Not present
- DL channelisation code	Reference to TS34.108 clause 6.10 Parameter Set
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Any value between 0 and Spreading factor-1
- Scrambling code change	Not Present
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present

MEASUREMENT REPORT (Step 13)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	
-CHOICE mode	FDD

- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_3 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_3
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 1 cell reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 4
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_3 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_3
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 4

8.2.6.38.5 Test Requirement

After step 1, the UE shall send a MEASUREMENT REPORT message triggered by event 1a for cell 2.

After step 3, the UE shall send an ACTIVE SET UPDATE COMPLETE message to acknowledge that it has added cell 2 to its active set.

After step 5, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS to acknowledge the downloading of the compressed mode parameters that were sent in the PHYSICAL CHANNEL RECONFIGURATION message of step 4 (only if compressed mode was required).

After step 8, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_2. In that message, cell 4 shall be the only cell included in the IE event results.

After step 10, the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message.

After step 12, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_3. In that message, cell 5 shall be the only cell included in the IE event results.

3GPP TSG-R5 Meeting #27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050766

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1154** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to Package 4 RRC test case 8.2.6.12
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	N/A
Date:	⌘	18/04/05
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In the testcase at step 4, the Physical Channel Reconfiguration message is sent to the UE with activation time as NULL and after the transmission of this message at the SS, cell transmission power levels are set as per column “T1“ of the table 8.2.6.12 As a result of the transmission power level settings, the UE may or may not send the Physical Channel Reconfiguration failure message to cell 1. In the case where the UE sends the message to Cell 1, the UE may also find cell 2 as a suitable Cell and will perform Cell update procedure on cell 2. As a result of this UE may not be able to send the RLC ACK for Physical channel Reconfiguration to SS and may not be able to receive RLC ACK for the Physical Channel Reconfiguration failure transmitted by the SS. In order to overcome this, the timer poll for local end configuration and UE is increased to 800ms.
Summary of change:	⌘	Following Changes are made: 1) In the section 8.2.6.12.4, initial condition, following note is added: “The 'timer poll' value in the SS RLC transmit entity should be set to 800 ms.” 2) Added specific message content for RRC Connection Setup in which timer poll for SRB 2, 3 and 4 is set to 800ms.
Consequences if not approved:	⌘	Testcase may fail a conformant UE.

Clauses affected:	⌘	8.2.6.12.4

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘ This CR requires change in TTCN.				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

<< START OF MODIFIED SECTION >>

8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell update)

8.2.6.12.1 Definition

8.2.6.12.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

…

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.304 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

…

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
- does not include "CN information elements"; and

- does not include the IE "Ciphering mode info"; and
- does not include the IE "Integrity protection mode info"; and
- does not include the IE "New C-RNTI"; and
- does not include the IE "New U-RNTI":

the UE shall:

1> transmit no response message.

…

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.7, 8.2.2.9,8.3.1.7, 8.5.4

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 and 2 are active.

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

NOTE: The 'timer poll' value in the SS RLC transmit entity should be set to 800 ms.

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 (FDD)	dBm/ 3.84 MHz	-60	-75	-75	-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 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 CELL_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. Then 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 new physical channel before timer T312 expires. UE may send a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure" to cell 1. UE reselects to cell 2 and then the UE shall transmit 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 DCCH after receiving a CELL UPDATE message. If not already done so, the UE may transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure" in cell 2. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 2 to acknowledge the reception of new C-RNTI value. If not already done so, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure".

NOTE: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

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	
4	←		PHYSICAL CHANNEL RECONFIGURATION	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.
5	→		PHYSICAL CHANNEL RECONGURATION FAILURE (option 1)	UE shall transmit this message in the cell 1.
6			Void	
7	→		CELL UPDATE	This message includes the value "cell reselection" set in IE "Cell update cause".
8	←		CELL UPDATE CONFIRM	
8a	→		PHYSICAL CHANNEL RECONGURATION FAILURE (option 2)	UE shall transmit this message in the cell 2.
9	→		UTRAN MOBILITY INFORMATION CONFIRM	
10	→		PHYSICAL CHANNEL RECONGURATION FAILURE (option 3)	UE shall transmit this message in the cell 2.

Specific Message Contents

RRC CONNECTION SETUP (message used in the initial setup)

Use the same message type found in clause 9 of TS 34.108 with the following exception:

Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	Not Present
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	32
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	800
- Poll_PDU	Not Present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Window	99
- Timer_poll_periodic	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Clause 9 of TS 34.108 for FDD or for TDD.

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Clause 9 of TS 34.108 for FDD or for TDD.

CELL UPDATE (Step 7)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Clause 9 of TS 34.108 for FDD or 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 8)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 9)

The contents of UTRAN MOBILITY INFORMATION CONFIRM message is identical as "Contents of UTRAN MOBILITY INFORMATION CONFIRM message" as found in Clause 9 of TS 34.108 for FDD or for TDD.

PHYSICAL CHANNEL RECONGURATION FAILURE (Steps 5, 8a and 10)

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 Clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Failure cause	"physical channel failure"

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 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 8, UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message.

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" after step 4, 8 or 9.

<< END OF MODIFIED SECTION >>

3GPP RAN WG5 Meeting #27
Bath, England, 25-29 April, 2005

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CHANGE REQUEST

⌘ **34.123-1** **CR** **1155** ⌘ **rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to GCF WI-10 RRC Test Cases 8.2.4.10
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	10/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Modified the Transport Channel Reconfiguation message content to:- • Correct a RRC state error • To clarify the message content
Summary of change:	⌘	In the message specific content for Transport Channel, the detail for IE “Added or Reconfigured UL TrCH information” and “Added or Reconfigured DL TrCH information” have been modified:- • RRC state error corrected. • The configuration used is clarified.
Consequences if not approved:	⌘	The prose and will be incorrect.

Clauses affected:	⌘	8.2.4.10.4

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	This CR is a revision for R5-050567. This change will require a TTCN change.

How to create CRs using this form:
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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.

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

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message; or

it shall:

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4.

8.2.4.10.3 Test purpose

To confirm that the UE reconfigures a new channel using dedicated physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

SYSTEM INFORMATION BLOCK TYPE 1 (see specific message contents).

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 UE has previously stored radio bearer and transport channel parameters for use in CELL_DCH. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which modifies the rate as compared to the stored configuration to the UE. The message also includes the physical layer parameters e.g. 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 channel according to this message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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	
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 1 (FDD)

Use the default system information block with the same type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- UE Timers and constants in connected mode	
- T312	2

TRANSPORT CHANNEL RECONFIGURATION

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

Information Element	Value/remark
Added or Reconfigured UL TrCH information	Set to the same values as for "Packet to CELL_DCH from CELL_~~DCH~~ FACH in PS". Only the DCH for DTCH is included and the rate for this DCH should be different compared to the stored CELL_DCH configuration.~~, since only for that TrCH the rate is changed as compared to the stored CELL_DCH configuration~~
Added or Reconfigured DL TrCH information	Set to the same values as for "Packet to CELL_DCH from CELL_~~DCH~~ FACH in PS". Only the DCH for DTCH is included and the rate for this DCH should be different compared to the stored CELL_DCH configuration.~~, since only for that TrCH the rate is changed as compared to the stored CELL_DCH configuration~~
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
Downlink information for each radio link list - Downlink information for each radio links - CHOICE mode - Downlink DPCH info for each RL - DL channelisation code - Scrambling code change	 FDD Not Present

TRANSPORT CHANNEL RECONFIGURATION COMPLETE

Use the message with the same message type specified in Annex A.

8.2.4.10.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT RECONFIGURATION COMPLETE message on the newly configured DPCH.

3GPP TSG-R5 Meeting #27
Bath, UK, 25th– 29th April, 2005

Tdoc ⌘R5-050928

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CHANGE REQUEST

⌘ **34.123-1** **CR** **1156** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of TGPL2 from section 8.2
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	26/04/05
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The compressed mode pattern parameter TGPL2 was removed from Rel-5 and onwards by CRs to 25.101, 25.133, 25.215 and 25.331 approved at RAN plenary 27 (see RP-050038). 34.123-1 need to be updated accordingly.
Summary of change:	⌘	Version column added for messages including the IE TGPL2 and applicability "R99 and REL-4 only" added.
Consequences if not approved:	⌘	34.123-1 not aligned to core specifications

Clauses affected:	⌘	8.2.6.29.4, 8.2.6.37.4, 8.2.6.38.4, 8.2.6.47.4, 8.2.6.48.4
Other specs affected:	⌘	Y / N ☐ / X Other core specifications X / ☐ Test specifications ☐ / X O&M Specifications
	⌘	34.108, 34.121
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/specs/CR.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.

<Start of first modified section>

8.2.6.29 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Compressed mode initiation): Success

8.2.6.29.1 Definition

8.2.6.29.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> set the variable ORDERED_RECONFIGURATION to TRUE;

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

…

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4.

8.2.6.29.3 Test purpose

1. To confirm that the UE activates compressed mode according to a PHYSICAL CHANNEL RECONFIGURATION message.
2. To confirm that the UE response PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after compressed mode is activated.
3. To confirm that the UE deactivates compressed mode according to a PHYSICAL CHANNEL RECONFIGURATION message.
4. To confirm that the UE response PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after compressed mode is deactivated..

8.2.6.29.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and 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 to the CN domain(s) supported by the UE.

Test Procedure

Table 8.2.6.29

Parameter	Unit	Cell 1				Cell 6			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 2			
CPICH Ec	dBm/ 3.84 MHz	-60	-60	-60	-60	Off	-60	-90	-60

Table 8.2.6.29 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"or "T1" to "T2" or "T2" to "T3", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.29. The SS transmits MEASUREMENT CONTROL message in order for the UE to perform Inter-frequency measurements and report event 2c. The SS switches its downlink transmission power setting according to columns "T1" in table 8.2.6.29, but the UE shall not transmit any MEASUREMENT REPORT messages. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE "DPCH compressed mode info" with "TGPS Status Flag" set to "Activate". The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. The UE shall transmit MEASUREMENT REPORT message to report event 2c with the measured CPICH RSCP value for cell 6 to the SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE"DPCH compressed mode info" with "TGPS Status Flag" set to "deactivate". The UE shall respond with the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. After the SS switches its downlink transmission power settings to columns "T2" in table 8.2.6.29 and 10s is passed, the SS switches its downlink transmission power settings to columns "T3" in table 8.2.6.29. The UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH because the UE cannot measure the CPICH RSCP on non used frequency as the compressed mode operation has been deactivated.

NOTE: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		

1			The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.29.
2	←	MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2c.
3			The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.29.
4			The SS checks that no MEASUREMENT REPORT messages receives for 10 s.
5	←	PHYSICAL CHANNEL RECONFIGURATION	Including IE"DPCH compressed mode info", which include parameter "TGPS Status Flag" set to activate.
6	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→	MEASUREMENT REPORT	The UE shall report event 2c with the measured CPICH RSCP value for cell 6.
8	←	PHYSICAL CHANNEL RECONFIGURATION	Including IE"DPCH compressed mode info", which include parameter "TGPS Status Flag" set to deactivate.
9	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
10			The SS switches its downlink transmission power settings to columns "T2" in table 8.2.6.29.
11			After 10 s is passed ,the SS switches its downlink transmission power settings to columns "T3" in table 8.2.6.29.
12			The SS checks that no MEASUREMENT REPORT messages receives for 10 s..

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 6
- 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 6
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- 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	On with no reporting
- 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 [ms]
- Reporting cell status	
- CHOICH reported cell	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per reported non-used frequency	1
- Parameters required for each non-used	

frequency	
- Threshold non used frequency	-68dbm
- W non-used frequency	0
DPCH compressed mode status info	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 titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark	Version
Downlink information common for all radio links		
- Downlink DPCH info common for all RL		
- Timing Indication	Maintain	
- CFN-target SFN frame offset	Not Present	
- Downlink DPCH power control information		
- CHOICE Mode	FDD	
-DPC Mode	0 (Single)	
- CHOICE Mode	FDD	
- Power offset Pilot-DPDCH	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	
- CHOICE mode	FDD	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	activate	
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod256	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	Undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	mode 0	
- ITP	mode 0	
- CHOICE UL/DL Mode	UL and DL, UL only, or DL only, depending on UE capability	
- Downlink compressed mode method	SF/2 or Not present depending on UE capability	
- Uplink compressed mode method	SF/2 or Not present depending on UE capability	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	

MEASUREMENT REPORT (Step 7)

The contents of MEASUREMENT REPORT message is the same as them found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Measurement Identity	Check to see if set to 15
Measured Results	
- CHOICE Measurement	

- Inter frequency measured results list	Check to see if set to "Inter-frequency measured results list"
- Inter frequency measurement results	
- Frequency info	
- CHOICE	FDD
- UARFCN uplink (Nu)	Check to see if set to the UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	Check to see if set to the UARFCN of the downlink frequency for cell 6
- UTRA carrier RSSI	Not checked
- Inter frequency cell measurement results	
- Cell measured results	
- Cell Identity	Not checked
- Cell synchronisation information	Not checked
- CHOICE Mode	FDD
- Primary CPICH Info	Not checked
- CPICH Ec/No	Not checked
- CPICH RSCP	Check to see if it is present
- Pathloss	Not checked
Measured Results on RACH	Not checked
Additional Measured results	Not checked
- Measured Result	
Event results	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 8)

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present

8.2.6.29.5 Test requirement

After step 3 the UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH.

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 MEASUREMENT REPORT message containing the IE "measured results" reporting cell 6's CPICH RSCP value, also report the triggering of event '2c' included in IE "Event results".

After step 8 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After 11 the UE shall not transmit any MEASUREMENT REPORT messages on the uplink DCCH.

<End of modified section>

<Start of next modified section>

8.2.6.37 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised)

8.2.6.37.1 Definition

8.2.6.37.2 Conformance requirement

The UE shall:

1> be able to receive any of the following messages:

…

2> PHYSICAL CHANNEL RECONFIGURATION message;

1> perform a hard handover and apply physical layer synchronisation procedure A as specified in [29], even if no prior UE measurements have been performed on the target cell and/or frequency.

…

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

…

When performing hard handover with change of frequency, the UE shall:

1> stop all intra-frequency and inter-frequency measurement reporting on the cells listed in the variable CELL_INFO_LIST. Each stopped measurement is restarted when a MEASUREMENT CONTROL message is received with the corresponding measurement identity.

…

When the UE is in CELL_DCH state and receives any of the messages causing the UE to perform a hard handover, the UE shall check the IE "Timing indication" in that message and:

1> if IE "Timing indication" has the value "initialise" (i.e. timing re-initialised hard handover):

2> read SFN on target cell identified by the first radio link listed in the IE "Downlink information per radio link list" included in that message;

2> set the CFN according to the following formula:

3> for FDD:

$$CFN = (SFN - (DOFF \text{ div } 38400)) \bmod 256$$

where the formula gives the CFN of the downlink DPCH frame which starts at the same time as or which starts during the PCCPCH frame with the given SFN.

…

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag" in the variable TGPS_IDENTITY):

2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1 in TS 25.331) received in this message, when the new configuration received in this message is taken into use;

…

If the IE "Downlink DPCH info common for all RL" is included in a message used to perform a Timing re-initialised hard handover or the IE "Downlink DPCH info common for all RL" is included in a message other than RB SETUP used to transfer the UE from a state different from Cell_DCH to Cell_DCH, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

1> if any ciphering configuration for a radio bearer using RLC-TM has not been applied, due to that the activation time from a previous procedure has not elapsed:

2> apply the ciphering configuration immediately and consider the activation time from the previous procedure to be elapsed.

1> if the IE "MAC-d HFN initial value" is included in the IE "Downlink DPCH info common for all RL":

…

1> else:

2> set the 20 MSB of the HFN component of COUNT-C for TM-RLC to the value of the latest transmitted IE "START" or "START List" for this CN domain, while not incrementing the value of the HFN component of COUNT-C at each CFN cycle; and

1> set the remaining LSBs of the HFN component of COUNT-C to zero;

1> start to perform ciphering on the radio bearer in lower layers while not incrementing the HFN;

1> include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now", that is a multiple of 8 frames (CFN mod 8 =0) and lies at least 200 frames ahead of the CFN in which the response message is first transmitted;

1> calculate the START value according to subclause 8.5.9 in TS 25.331;

1> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the response message;

1> at the CFN value as indicated in the response message in the IE "COUNT-C activation time":

2> set the 20 MSB of the HFN component of the COUNT-C variable common for all transparent mode radio bearers of this CN domain to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and

2> set the remaining LSBs of the HFN component of COUNT-C to zero;

2> increment the HFN component of the COUNT-C variable by one even if the "COUNT-C activation time" is equal to zero;

2> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;

2> step the COUNT-C variable, as normal, at each CFN value, i.e. the HFN component is no longer fixed in value but incremented at each CFN cycle.

Reference

3GPP TS 25.331 clauses 8.2.2.3, 8.2.2.4, 8.3.5, 8.5.15.2, 8.6.6.15, 8.6.6.28

8.2.6.37.3 Test Purpose

To confirm that the UE is able to perform a hard-handover with change of frequency, with and without prior measurements on the target frequency.

To confirm that the UE answers with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message when the procedure has been initiated with the PHYSICAL CHANNEL RECONFIGURATION message.

To confirm that the UE stops intra-frequency measurements after the inter-frequency handover has been performed, until a MEASUREMENT CONTROL message is received from the SS.

To confirm that the UE computes as it shall the CFN to be used after the handover.

To confirm that the UE deactivates compressed mode (if required) when it has been ordered to do so in the PHYSICAL CHANNEL RECONFIGURATION message.

To confirm that the UE includes the IE "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info") in the response message if ciphering is active for any radio bearer using RLC-TM.

8.2.6.37.4 Method of test

Initial Condition

System Simulator: 5 cells – Cell 1 and cell 2 on frequency f_1, cell 4 and cell 5 on frequency f_2, and cell 6 on frequency f_3. Cells 2 and 5 shall have the same primary scrambling code.

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 supported by the UE. If the UE supports both CS and PS domains, the test case shall be run twice, once starting from state 6-9, once starting from state 6-10. Ciphering shall be activated.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.2.6.37-1 illustrates the downlink power to be applied for the 5 cells, as well as the frequency and scrambling code for each cell.

Table 8.2.6.37-1

Parameter	Unit	Cell 1			Cell 2			Cell 4			Cell 5			Cell 6		
Frequency		f_1			f_1			f_2			f_2			f_3		
Scrambling code		Scrambling code 1			Scrambling code 2			Scrambling code 3			Scrambling code 2			Scrambling code 4		
		T0	T1	T2	T0	T1	T2	T0	T1	T2	T0	T1	T2	T0	T1	T2
CPICH Ec	dBm/3.84 MHz	-60	-60	-75	-95	-60	-75	-60	-60	-60	-60	-60	-70	-50	-50	-50

The UE is initially in CELL_DCH, and has only cell 1 in its active set.

At instant T1, the downlink power is changed according to what is shown in table 8.2.6.37 -1. Cell 2 should then trigger event 1a as has been configured through the default System Information Block Type 11. The UE shall thus send a MEASUREMENT REPORT to the SS, triggered by cell 2.

The SS adds then cell 2 to the active set of the Ue, by sending an ACTIVE SET UPDATE message to the UE. The UE shall answer with an ACTIVE SET UPDATE COMPLETE message.

The SS configures then compressed mode (if required), to prepare the UE for inter-frequency measurements, by sending a PHYSICAL CHANNEL RECONFIGURATION message on DCCH using AM-RLC. The UE shall answer with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

The SS then sets up inter-frequency measurements (event 2b), by sending a MEASUREMENT CONTROL message to the UE. Compressed mode is started at the same time in that message (if required).

At instant T2, the downlink power is changed according to what is shown in table 8.2.6.37-1. Frequency f_2 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

SS then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 4 on frequency f_2. The UE is also ordered to stop compressed mode (if required) after the handover.

The UE shall then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS when the inter-frequency handover has succeeded. In case the initial condition was CS-DCCH+DTCH_DCH, that message shall contain the IEs "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info"), indicating to the SS when and from which value to start incrementing the HFN part of the COUNT-C variable used for ciphering. The SS shall restart incrementing the HFN part of the COUNT-C variable from the value specified in the IE START from the CFN indicated in the IE COUNT-C activation time.

The SS then waits for 20 seconds, and checks that no MEASUREMENT REPORT is received from the UE.

The SS sends then a MEASUREMENT CONTROL message to the UE, to modify the intra-frequency cell info list of the UE. About 640 ms after, a MEASUREMENT REPORT message shall be received from the UE, triggered by cell 5. Subsequent MEASUREMENT REPORT messages shall be received at 4 seconds interval.

Only if the UE requires compressed mode for performing interfrequency measurements, the SS sends a MEASUREMENT CONTROL message to the UE that sets up inter-frequency measurements, but does not activate compressed mode in that message. It waits then for 20 seconds, and checks that no MEASUREMENT REPORT message triggered by cell 6 is received.

Independent of the UE requiring compressed mode, the SS then continues by sending a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 6 on frequency f_3.

The UE shall then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS when the inter-frequency handover has succeeded. In case the initial condition was CS-DCCH+DTCH_DCH, that message shall contain the IEs "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info"), indicating to the SS when and from which value to start incrementing the HFN part of the COUNT-C variable used for ciphering.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS changes the power of the cells according to column T1 in table 8.2.6.37-1
2	→		MEASUREMENT REPORT	Event 1a is triggered by cell 2 in the UE, which sends a MEASUREMENT REPORT message to the SS
3	←		ACTIVE SET UPDATE	The SS adds cell 2 to the active set of the UE.
4	→		ACTIVE SET UPDATE COMPLETE	The UE answers with an ACTIVE SET UPDATE COMPLETE message to the SS
5	←		PHYSICAL CHANNEL RECONFIGURATION	The SS downloads the compressed mode parameters in the UE (if required).
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE acknowleges the downloading of the compressed mode parameters (only if compressed mode was configured).

7	←	MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE, and activates compressed mode (if required).
8			The SS changes the power of the cells according to column T2 in table 8.2.6.37-1.
9	→	MEASUREMENT REPORT	Frequency f_2 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.
10	←	PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 4 on frequency f_2.
11	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	After the UE has succeeded in performing the inter-frequency handover, it shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS using the new configuration.
12			The SS waits for 20 seconds and monitors that no MEASUREMENT REPORT message is received from the UE.
13	←	MEASUREMENT CONTROL	The SS updates the list of intra-frequency cells in the UE.
14	→	MEASUREMENT REPORT	Cell 5 triggers event 1a in the UE, which sends a MEASUREMENT REPORT message to the SS. Subsequent MEASUREMENT REPORT messages shall be received from the UE at 4 seconds interval.
15	←	MEASUREMENT CONTROL	The SS sets up an inter-frequency measurement in the UE (if compressed mode is required), but does not activate compressed mode.
16			The SS waits for 20 seconds and monitors that no MEASUREMENT REPORT message is received from the UE.
17	←	PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 6 on frequency f_3.
18	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	After the UE has succeeded in performing the inter-frequency handover, it shall send a PHYSICAL CHANNEL

			RECONFIGURATION COMPLETE message to the SS using the new configuration.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT REPORT (Step 2)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Scrambling code 1 (or scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is present and includes IE COUNT-C-SFN frame difference (This IE is related to scrambling code 2)
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2 (or scrambling code 1 if the previous scrambling code included by the UE was scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/Remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2
- Downlink DPCH info for each RL	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	Not Present
- Spreading factor	Refer to TS 34.108 clause 6.10.2.4 "Typical radio parameter sets"
- Code Number	Any value between 0 and Spreading factor-1 (use different values for each DPCH in case several DPCHs are allocated to the UE).
- Scrambling code change	Not Present
- TPC Combination Index	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	FALSE
- SCCPCH information for FACH	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 5 for the CS case)

Information Element	Value/Remark	Version
Activation time	Not Present	
New U-RNTI	Not Present	
New C-RNTI	Not Present	
New DSCH-RNTI	Not Present	
RRC State indicator	CELL_DCH	
UTRAN DRX cycle length coefficient	Not Present	
CN information info	Not Present	
URA identity	Not Present	
Downlink counter synchronisation info	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		
- Downlink DPCH info common for all RL	Not Present	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	Deactivate	
- TGCFN	Not present	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	Mode 0	
- ITP	Mode 0	
- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)	
- Downlink compressed mode method	SF/2 (or not sent, depending on the UE capability)	
- Uplink compressed mode method	SF/2 (or not sent, depending on the UE capability)	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	
Downlink information per radio link list	2 radio links	
Downlink information for each radio link		
- CHOICE mode	FDD	
- Primary CPICH info	Scrambling code 1	
- Cell ID	Not present	
- 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	
- Secondary CPICH info	Not present	

- DL channelisation code		
- Secondary scrambling code	Not present	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set	
- Code number	Same as the code currently allocated to the UE in cell 1	
- Scrambling code change	Code change	
- TPC combination index	0	
- SSDT cell identity	Not present	
- Closed loop timing adjustment mode	Not present	
Downlink information for each radio link		
- CHOICE mode	FDD	
- Primary CPICH info	Scrambling code 2	
- Cell ID	Not present	
- 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	
- Secondary CPICH info	Not present	
- DL channelisation code		
- Secondary scrambling code	Not present	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set	
- Code number	Same as the code currently allocated to the UE in cell 2	
- Scrambling code change	No code change	
- TPC combination index	0	

PHYSICAL CHANNEL RECONFIGURATION MESSAGE (Step 5 for the PS case)

Information Element	Value/Remark	Version
Activation time	Not Present	
New U-RNTI	Not Present	
New C-RNTI	Not Present	
New DSCH-RNTI	Not Present	
RRC State indicator	CELL_DCH	
UTRAN DRX cycle length coefficient	Not Present	
CN information info	Not Present	
URA identity	Not Present	
Downlink counter synchronisation info	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		
- Downlink DPCH info common for all RL	Not Present	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	Deactivate	
- TGCFN	Not present	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	Mode 0	
- ITP	Mode 0	
- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)	
- Downlink compressed mode method	HLS(or not sent, depending on the UE capability)	
- Uplink compressed mode method	HLS(or not sent, depending on the UE capability)	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	
Downlink information for each radio link	Not Present	

MEASUREMENT CONTROL (Step 7)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodical 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	2 inter-frequency cells
- Inter-frequency cell id	4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_2
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Inter-frequency cell id	5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_2
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	Not present
- 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	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	
- UE autonomous update	On with no reporting
- Non autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2b
- Threshold used frequency	-70 dBm

- W used frequency - Hysteresis - Time to trigger - Reporting cell status - Maximum number of reported cells per reported non-used frequency - Parameters required for each non-used frequency	0.0 1.0 dB 100 ms Report cells within monitored and/or virtual active set on non-used frequency 2
- Threshold non used frequency	-65 dBm
- W non-used frequency DPCH compressed mode status info	0
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Activate
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 2 cells reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3 (or scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 2 (or scrambling code 3 if the previous scrambling code included by the UE was scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3

PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
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	FDD
- UARFCN uplink (Nu)	Not present
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
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	
- Downlink DPCH info common for all RL	
- Timing indication	Initialise
- CFN-targetSFN frame offset	0
- Downlink DPCH power control information	Not Present
- Downlink 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
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present
- TX Diversity mode	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary value between 0..306688 by step of 512
Downlink information per radio link list	1 radio link
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 3
- Cell ID	Not present
- 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	Set to value of DPCH Frame Offset modulo 38400
- Secondary CPICH info	Not present
- DL channelisation code	Reference to TS34.108 clause 6.10 Parameter Set
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Any value between 0 and Spreading factor-1
- Scrambling code change	Not Present
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Steps 11 and 18 for the CS case)

Information Element	Value/Remark
Message Type	
RRC transaction identifier	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that not present
CHOICE mode	FDD
COUNT-C activation time	Check that this IE is present and that the CFN value is a multiple of 8 frames (CFN mod 8 =0) and lies at least 200 frames ahead of the CFN in which the response message is first transmitted.
Radio bearer uplink ciphering activation time info	Check that not present
Uplink counter synchronisation info	Check that present
>RB with PDCP information list	Check that absent
>START list	Check that this IE is set to 1
>>CN Domain identity	Check that this IE is set to CS Domain
>>START	Not checked

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Steps 11 and 18 for the PS case)

Information Element	Value/Remark
Message Type	
RRC transaction identifier	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that not present
CHOICE mode	FDD
COUNT-C activation time	Check that not present
Radio bearer uplink ciphering activation time info	Check that not present
Uplink counter synchronisation info	Check that not present

MEASUREMENT CONTROL (Step 13)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement Reporting Mode	Not present
Additional measurements list	Not present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove all intra-frequency cells
- New intra-frequency info list	2 new intra-frequency cells
- Intra-frequency cell id	4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 3 (for cell 4)
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells selection and Re-selection info	Not Present
- Intra-frequency cell id	5
- Cell info	
- Cell individual offset	10 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2 (for cell 5)
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells selection and Re-selection info	Not Present
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	Not Present
- Intra-frequency reporting quantity	Not Present
- Reporting cell status	Not Present
- Measurement validity	Not Present
- CHOICE report criteria	Not Present

MEASUREMENT REPORT (Step 14)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that this IE is set to Scrambling code 2 (or scrambling code 3)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is present and includes IE COUNT-C-SFN frame difference (This IE is related to scrambling code 2)
- Primary CPICH info	
- Primary scrambling code	Check that this IE is set to Scrambling code 3 (or scrambling code 2 if scrambling code 3 was indicated first)
- 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	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that this IE is set to Scrambling code 2

MEASUREMENT CONTROL (Step 15)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodical 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	2 inter-frequency cells
- Inter-frequency cell id	1
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_1
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Inter-frequency cell id	2
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_1
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	TRUE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	Not present
- 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	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	
- UE autonomous update	On with no reporting
- Non autonomous update mode	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	100 ms
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set on used frequency or within virtual active and/or monitored set on non-used frequency
- Maximum number of reported cells	2
- Parameters required for each non-used frequency	1 frequency
- Threshold non used frequency	-90 dBm
- W non-used frequency	0.0
DPCH compressed mode status info	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 17)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
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	FDD
- UARFCN uplink (Nu)	Not Present
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_3
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	
- Downlink DPCH info common for all RL	
- Timing indication	Initialise
- CFN-targetSFN frame offset	0
- Downlink DPCH power control information	Not Present
- Downlink 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
- DPCH compressed mode info	Not present
- TX Diversity mode	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary set to value 0..306688 by step of 512
Downlink information per radio link list	1 radio link
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 4
- Cell ID	Not present
- 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	Set to value of DPCH Frame Offset modulo 38400
- Secondary CPICH info	Not present
- DL channelisation code	Reference to TS34.108 clause 6.10 Parameter Set
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Any value between 0 and Spreading factor-1
- Scrambling code change	Not Present
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present

8.2.6.37.5 Test Requirement

After step 1, the UE shall send a MEASUREMENT REPORT message triggered by event 1a for cell 2.

After step 3, the UE shall send an ACTIVE SET UPDATE COMPLETE message to acknowledge that it has added cell 2 to its active set.

After step 5, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS to acknowledge the downloading of the compressed mode parameters (only if compressed mode is required),that were sent in the PHYSICAL CHANNEL RECONFIGURATION message of step 4.

After step 8, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_2. In that message, cell 4 shall be the only cell included in the IE event results.

After step 10, the UE shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS in cell 4 to acknowledge the successful timing re-initialised inter-frequency handover, and in case the UE was in state 6-9 as defined in clause 7.4 of 34.108 as initial condition to the test, the IEs "COUNT-C activation time" and "START list" (in the IE "Uplink counter synchronisation info") shall be included in that message. The UE shall also start incrementing the HFN part of the COUNT-C variable from the value specified in the IE START from the CFN indicated in the IE COUNT-C activation time.

After step 11, the UE shall not send any MEASUREMENT REPORT message triggered by event 1a for cell 5.

After step 13, the UE send a MEASUREMENT REPORT message triggered by event 1a for cell 5.

For UE's that require compressed mode for performing interfrequency measurements, after step 15 the UE shall not send any MEASUREMENT REPORT message triggered by event 2c for frequency 1.

After step 17, the UE shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS in cell 4 to acknowledge the successful timing re-initialised inter-frequency handover, and in case the UE was in state 6-9 as defined in clause 7.4 of 34.108 as initial condition to the test, the IEs "COUNT-C activation time" and "START list" (in the IE "Uplink counter synchronisation info") shall be included in that message.

<End of modified section>

<Start of next modified section>

8.2.6.38 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised): Failure (Physical channel failure and reversion to old channel)

8.2.6.38.1 Definition

8.2.6.38.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

…

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

…

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.7, 8.2.2.9, 8.5.4.

8.2.6.38.3 Test purpose

To confirm that the UE reverts to the old configuration (including measurement configurations, ciphering procedures and compressed mode configurations if required) 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 before timer T312 expiry.

8.2.6.38.4 Method of test

Initial Condition

System Simulator: 4 cells – Cell 1 and cell 2 on frequency f_1, cell 4 on frequency $f_2$and cell 5 on frequency f_3.

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 supported by the UE. If the UE supports both CS and PS domains, the test case shall be run twice, once starting from state 6-9, once starting from state 6-10. Ciphering shall be activated.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.2.6.38-1 illustrates the downlink power to be applied for the 4 cells, as well as the frequency and scrambling code for each cell.

Table 8.2.6.38-1a

Parameter	Unit	Cell 1					Cell 2				
Frequency		f_1					f_1				
Scrambling code		Scrambling code 1					Scrambling code 2				
		T0	T1	T2	T3	T4	T0	T1	T2	T3	T4
CPICH Ec	dBm/3.84 MHz	-60	-60	-75	-60	-75	-95	-60	-75	-60	-75

Table 8.2.6.38-1b

Parameter	Unit	Cell 4					Cell 5				
Frequency		f_2					f_3				
Scrambling code		Scrambling code 3					Scrambling code 4				
		T0	T1	T2	T3	T4	T0	T1	T2	T3	T4
CPICH Ec	dBm/3.84 MHz	-60	-60	-60	OFF	-70	-60	-60	-70	OFF	-60

The UE is initially in CELL_DCH, and has only cell 1 in its active set.

At instant T1, the downlink power is changed according to what is shown in table 8.2.6.38 -1. Cell 2 should then trigger event 1a as has been configured through the default System Information Block Type 11. The UE shall thus send a MEASUREMENT REPORT to the SS, triggered by cell 2.

The SS adds then cell 2 to the active set of the UE, by sending an ACTIVE SET UPDATE message to the UE. The UE shall answer with an ACTIVE SET UPDATE COMPLETE message.

The SS then configures compressed mode, (if required by the UE) to prepare the UE for inter-frequency measurements, by sending a PHYSICAL CHANNEL RECONFIGURATION message on DCCH using AM-RLC. The UE shall answer with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

The SS then sets up inter-frequency measurements (event 2b), by sending a MEASUREMENT CONTROL message to the UE. Compressed mode is started at the same time in that message, (if required).

At instant T2, the downlink power is changed according to what is shown in table 8.2.6.38-1. Frequency f_2 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

At instance T3, the downlink power is changed according to what is shown in table 8.2.6.38-1.

SS then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 4 on frequency f_2.

The UE shall revert to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the SS on the DCCH using AM RLC, with the value "physical channel failure" in the IE "failure cause".

At instant T4, the downlink power is changed according to what is shown in table 8.2.6.38-1. Frequency f_3 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS changes the power of the cells according to column T1 in table 8.2.6.38-1.
2	→		MEASUREMENT REPORT	Event 1a is triggered by cell 2 in the UE, which sends a MEASUREMENT REPORT message to the SS.
3	←		ACTIVE SET UPDATE	The SS adds cell 2 to the active set of the UE.
4	→		ACTIVE SET UPDATE COMPLETE	The UE answers with an ACTIVE SET UPDATE COMPLETE message to the SS.
5	←		PHYSICAL CHANNEL RECONFIGURATION	The SS downloads the compressed mode parameters in the UE, (if required).
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE acknowledges the downloading of the compressed mode parameters (only if compressed mode was configured).
7	←		MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE, and activates compressed mode (if required).
8				The SS changes the power of the cells according to column T2 in table 8.2.6.38-1.
9	→		MEASUREMENT REPORT	Frequency f_2 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.
				The SS changes the power of the cells according to column T3 in table 8.2.6.38-1.
10	←		PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 4 on frequency f_2.
11	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expires, the UE shall revert to the old channel

			and transmits this message.
12			The SS changes the power of the cells according to column T4 in table 8.2.6.38-1.
13	→	MEASUREMENT REPORT	Frequency f_3 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT REPORT (Step 2)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Scrambling code 1 (or scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is present and includes IE COUNT-C-SFN frame difference
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2 (or scrambling code 1 if the previous scrambling code included by the UE was scrambling code 2)
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Intra-frequency measurement event results	
- Intra-frequency event identity	1a
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Scrambling code 2

ACTIVE SET UPDATE (Step 3)

Information Element	Value/Remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 2
- Downlink DPCH info for each RL	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	Not Present
- Spreading factor	Refer to TS 34.108 clause 6.10.2.4 "Typical radio parameter sets"
- Code Number	Any value between 0 and Spreading factor-1 (use different values for each DPCH in case several DPCHs are allocated to the UE).
- 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

PHYSICAL CHANNEL RECONFIGURATION (Step 5 for the CS case)

Information Element	Value/Remark	Version
Activation time	Not Present	
New U-RNTI	Not Present	
New C-RNTI	Not Present	
New DSCH-RNTI	Not Present	
RRC State indicator	CELL_DCH	
UTRAN DRX cycle length coefficient	Not Present	
CN information info	Not Present	
URA identity	Not Present	
Downlink counter synchronisation info	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		
- Downlink DPCH info common for all RL	Not Present	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	Deactivate	
- TGCFN	Not present	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	Mode 0	
- ITP	Mode 0	

- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)	
- Downlink compressed mode method	SF/2 (or not sent, depending on the UE capability)	
- Uplink compressed mode method	SF/2 (or not sent, depending on the UE capability)	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	
Downlink information per radio link list	2 radio links	
Downlink information for each radio link		
- CHOICE mode	FDD	
- Primary CPICH info	Scrambling code 1	
- Cell ID	Not present	
- 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	
- Secondary CPICH info	Not present	
- DL channelisation code		
- Secondary scrambling code	Not present	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set	
- Code number	Same as the code currently allocated to the UE in cell 1	
- Scrambling code change	Code change	
- TPC combination index	0	
- SSDT cell identity	Not present	
- Closed loop timing adjustment mode	Not present	
Downlink information for each radio link		
- CHOICE mode	FDD	
- Primary CPICH info	Scrambling code 2	
- Cell ID	Not present	
- 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	
- Secondary CPICH info	Not present	
- DL channelisation code		
- Secondary scrambling code	Not present	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set	
- Code number	Same as the code currently allocated to the UE in cell 2	
- Scrambling code change	No code change	
- TPC combination index	0	

PHYSICAL CHANNEL RECONFIGURATION MESSAGE (Step 5 for the PS case)

Information Element	Value/Remark	Version
Activation time	Not Present	
New U-RNTI	Not Present	

	New C-RNTI	Not Present	
	New DSCH-RNTI	Not Present	
	RRC State indicator	CELL_DCH	
	UTRAN DRX cycle length coefficient	Not Present	
	CN information info	Not Present	
	URA identity	Not Present	
	Downlink counter synchronisation info	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		
	- Downlink DPCH info common for all RL	Not Present	
	- DPCH compressed mode info		
	- TGPSI	1	
	- TGPS Status Flag	Deactivate	
	- TGCFN	Not Present	
	- Transmission gap pattern sequence configuration parameters		
	- TGMP	FDD Measurement	
	- TGPRC	Infinity	
	- TGSN	4	
	- TGL1	7	
	- TGL2	Not Present	
	- TGD	undefined	
	- TGPL1	3	
	- TGPL2	Not Present	R99 and REL-4 only
	- RPP	Mode 0	
	- ITP	Mode 0	
	- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)	
	- Downlink compressed mode method	HLS(or not sent, depending on the UE capability)	
	- Uplink compressed mode method	HLS(or not sent, depending on the UE capability)	
	- Downlink frame type	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	Not Present	
	- SSDT information	Not Present	
	- Default DPCH Offset Value	Not Present	
	Downlink information for each radio link	Not Present	

MEASUREMENT CONTROL (Step 7)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodical 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	2 inter-frequency cells
- Inter-frequency cell id	4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_2
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Inter-frequency cell id	5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN for the uplink corresponding to f_3
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	Not present
- Primary Scrambling Code	Scrambling code 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	Not present
- 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	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	
- UE autonomous update	On with no reporting
- Non autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2b
- Threshold used frequency	-70 dBm
- W used frequency	0.0
- Hysteresis	1.0 dB
- Time to trigger	100 ms
- Reporting cell status	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per reported non-used frequency	2
- Parameters required for each non-used frequency	
- Threshold non used frequency	-65 dBm
- W non-used frequency	0
DPCH compressed mode status info	

- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Activate
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 1 cell reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_2 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_2
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 3

PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Information Element	Value/Remark
Activation time	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
New DSCH-RNTI	Not Present
RRC State indicator	CELL_DCH
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	FDD
- UARFCN uplink (Nu)	Not present
- UARFCN downlink (Nd)	UARFCN for the downlink corresponding to f_2
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	
- Downlink DPCH info common for all RL	
- Timing indication	Initialise
- CFN-targetSFN frame offset	0
- Downlink DPCH power control information	Not Present
- Downlink 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
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present
- TX Diversity mode	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary value between 0..306688 by step of 512
Downlink information per radio link list	1 radio link
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Scrambling code 3
- Cell ID	Not present
- 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	Set to value of DPCH Frame Offset modulo 38400
- Secondary CPICH info	Not present
- DL channelisation code	Reference to TS34.108 clause 6.10 Parameter Set
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Any value between 0 and Spreading factor-1
- Scrambling code change	Not Present
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present

MEASUREMENT REPORT (Step 13)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most

	significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_3 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_3
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 1 cell reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 4
- CPICH Ec/N0	Check that this IE is absent
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	
-CHOICE mode	FDD
- UARFCN uplink	Check that the value of this IE is set to UARFCN for the uplink corresponding to f_3 (Could be absent in case the duplex distance is the default duplex distance)
- UARFCN downlink	Check that the value of this IE is set to UARFCN for the downlink corresponding to f_3
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code 4

8.2.6.38.5 Test Requirement

After step 1, the UE shall send a MEASUREMENT REPORT message triggered by event 1a for cell 2.

After step 3, the UE shall send an ACTIVE SET UPDATE COMPLETE message to acknowledge that it has added cell 2 to its active set.

After step 5, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS to acknowledge the downloading of the compressed mode parameters that were sent in the PHYSICAL CHANNEL RECONFIGURATION message of step 4 (only if compressed mode was required).

After step 8, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_2. In that message, cell 4 shall be the only cell included in the IE event results.

After step 10, the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message.

After step 12, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_3. In that message, cell 5 shall be the only cell included in the IE event results.

<End of modified section>

<Start of next modified section>

8.2.6.47 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Compressed mode initiation, with active HS-DSCH reception): Success

8.2.6.47.1 Definition

All UEs which support FDD, HS-PDSCH and compressed mode.

8.2.6.47.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> set the variable ORDERED_RECONFIGURATION to TRUE;

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

…

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

…

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall:

2> at the time indicated by IE "TGCFN":

3> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4, 8.6.6.15.

8.2.6.47.3 Test purpose

1. To confirm that the UE configures compressed mode according to a PHYSICAL CHANNEL RECONFIGURATION message during active HS-DSCH reception.

2. To confirm that the UE activates compressed mode according to the previously stored configuration when receiving a MEASUREMENT CONTROL message during active HS-DSCH reception.

8.2.6.47.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

UE: PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statement(s)

- UE supports FDD
- UE supports HS-PDSCH
- Compressed mode required yes/no

Test Procedure

Table 8.2.6.47

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/3.84MHz	-60	-70	-70	-60

Table 8.2.6.47 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

SS initiates P25 to make the UE move to state 6-17 as specified in TS34.108 clause7.4. The UE is in CELL_DCH state in cell 1 with active HS-DSCH reception and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.47. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes the IE "DPCH compressed mode info" with the IE "TGPS Status Flag" set to "Deactivate". The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

The SS switches its downlink transmission power setting according to columns "T1" in table 8.2.6.47, but the UE shall not transmit any MEASUREMENT REPORT messages.

The SS then sets up inter-frequency measurements (event 2b) and activates compressed mode, by sending a MEASUREMENT CONTROL message to the UE. The SS waits for 1s for the UE to activate compressed mode. The UE shall transmit MEASUREMENT REPORT message to report event 2b with the measured CPICH RSCP and Ec/No values for cell 6 to the SS.

NOTE: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		

0	←→	P25	See below for the specific message content used in RADIO BEARER SETUP message (Step 0)
1			The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.47.
2	←	PHYSICAL CHANNEL RECONFIGURATION	The SS downloads compressed mode parameters without activating compressed mode.
3	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4			The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.47.
5	←	MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE and activates compressed mode.
6	→	MEASUREMENT REPORT	The UE shall report event 2b with the measured CPICH RSCP and Ec/No values for cell 6.

Specific Message Contents

RADIO BEARER SETUP (Step 0)

Use the same message as specified for " Packet to CELL_DCH / HS-DSCH from CELL_DCH in PS" in 34.108, except for the following:

Information Element	Value/remark
RAB information for setup	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A10.
Added or Reconfigured DL TrCH information	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A10.

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 "Packet to CELL_DCH from CELL_DCH in PS" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark	Version
Downlink HS-PDSCH Information		
- HS-SCCH Info	Not present	
- Measurement Feedback Info	Not present	
- CHOICE mode	FDD (no data)	
Downlink information common for all radio links		
- Downlink DPCH info common for all RL		
- Timing Indication	Maintain	
- CFN-target SFN frame offset	Not Present	
- Downlink DPCH power control information		
- CHOICE Mode	FDD	
-DPC Mode	0 (Single)	
- CHOICE Mode	FDD	
- Power offset Pilot-DPDCH	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	
- CHOICE mode	FDD	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	Deactivate	
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod256	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	Undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	mode 0	
- ITP	mode 0	
- CHOICE UL/DL Mode	UL and DL, UL only, or DL only, depending on UE capability	
- Downlink compressed mode method	HLS	
- Uplink compressed mode method	HLS	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	
- MAC-hs reset indicator	Not Present	

MEASUREMENT CONTROL (Step 5)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	Remove all inter-frequency cells
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	Set to the frequency of cell 6
- 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 6
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	TRUE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	On with no reporting
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2b
- Threshold used frequency	-65 dBm
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	100 ms
- Reporting cell status	
- CHOICH reported cell	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per reported non-used frequency	2
- Parameters required for each non-used	

frequency	
- Threshold non used frequency	-68 dBm
- W non-used frequency	0
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (100 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Activate
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 6)

The contents of MEASUREMENT REPORT message is the same as them found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Measurement Identity	Check to see if set to 15
Measured Results	
- CHOICE Measurement	
- Inter frequency measured results list	Check to see if set to "Inter-frequency measured results list"
- Inter frequency measurement results	
- Frequency info	Set to the frequency of cell 6
- UTRA carrier RSSI	Not checked
- Inter frequency cell measurement results	
- Cell measured results	
- Cell Identity	Not checked
- Cell synchronisation information	Not checked
- CHOICE Mode	FDD
- Primary CPICH Info	Not checked
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is present
- Pathloss	Not checked
Measured Results on RACH	Not checked
Additional Measured results	Not checked
- Measured Result	
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	Check that the value of this IE is set to the frequency of cell 6
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code of cell 6

8.2.6.47.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 5 the UE shall transmit a MEASUREMENT REPORT message containing the IE "measured results" reporting cell 6's CPICH RSCP and Ec/No values, also report the triggering of event '2c' included in IE "Event results".

8.2.6.48 Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, serving HS-DSCH cell change, compressed mode)

8.2.6.48.1 Definition and applicability

All UEs which support FDD, HS-PDSCH and compressed mode.

8.2.6.48.2 Conformance requirement

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if "DPCH frame offset" is included for one or more RLs in the active set:

2> use its value to determine the beginning of the DPCH frame in accordance with the following:

3> if the received IE "DPCH frame offset" is across the value range border compared to the DPCH frame offset currently used by the UE:

4> consider it to be a request to adjust the timing with 256 chips across the frame border (e.g. if the UE receives value 0 while the value currently used is 38144 consider this as a request to adjust the timing with +256 chips).

3> if after taking into account value range borders, the received IE "DPCH frame offset" corresponds to a request to adjust the timing with a step exceeding 256 chips:

4> set the variable INVALID_CONFIGURATION to TRUE.

3> and the procedure ends.

2> adjust the radio link timing accordingly.

…

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

1> the procedure ends.

…

If IE "Timing indication" has the value "initialise", UE shall:

1> execute the Timing Re-initialised hard handover procedure by following the procedure indicated in the subclause relevant to the procedure chosen by the UTRAN.

…

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

1> at the activation time T:

2> for an HS-DSCH related reconfiguration caused by the received message:

3> select the HS-SCCH subframe boundary immediately before the first HS-SCCH subframe, which entirely falls within the 10 ms frame following T;

3> start using, at that HS-SCCH subframe boundary, the new HS-DSCH configuration in the received message, replacing any old HS-DSCH configuration.

2> for actions, other than a physical channel reconfiguration, caused by the received message:

3> perform the actions for the information elements in the received message as specified elsewhere.

NOTE: An "HS-DSCH related reconfiguration" includes, in particular, reconfigurations that need to be time-aligned with the 2ms subframe of the HS-SCCH, HS-PDSCH and/or HS-DPCCH. For example, start and stop of HS-SCCH reception and serving HS-DSCH cell change.

…

If the IE "New H-RNTI" is included, the UE shall:

1> if the IE "Downlink HS-PDSCH Information" is also included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message:

2> store the value in the variable H_RNTI.

When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:

1> use the value of the variable H_RNTI as UE identity in the HS-SCCH reception procedure in the physical layer.

…

If the IE "Downlink HS-PDSCH Information" is included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message, the UE shall:

1> if the IE "New H-RNTI" is included:

2> perform the actions as specified in subclause 8.6.3.1b of TS 25.331.

1> if the IE "HS-SCCH Info" is included:

2> act as specified in subclause 8.6.6.33 of TS 25.331

1> if the IE "Measurement Feedback Info" is included:

2> act as specified in subclause 8.6.6.34 of TS 25.331

1> For FDD, if, as a result of the received message, the variable H_RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "Measurement Feedback Info"; and

1> For FDD, if the UE has received IE "Uplink DPCH Power Control Info" and stored $\Delta_{ACK,}$ Δ_{NACK} and Ack-NACK Repetition factor; and

1> For FDD, if the UE has stored IEs "MAC-hs queue to add or reconfigure list", "MAC-d PDU size Info" and "RB Mapping Info" corresponding to the HS-PDSCH configuration;

2> set the variable HS_DSCH_RECEPTION to TRUE;

2> start HS-DSCH reception procedures according to the stored HS-PDSCH configuration:

3> as stated in subclause 8.6.3.1b of TS 25.331 for the IE "H-RNTI";

3> in subclause 8.6.6.33 of TS 25.331 for the IE "HS-SCCH Info"; and

3> in subclause 8.6.6.34 of TS 25.331for the IE "Measurement Feedback Info".

…

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall:

2> at the time indicated by IE "TGCFN":

3> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

Reference

3GPP TS 25.331 clauses 8.2.2, 8.3.5.1.2, 8.6.3.1, 8.6.3.1b, 8.6.6.4, 8.6.6.27, 8.6.6.32, 8.6.6.15

8.2.6.48.3 Test purpose

To confirm that the UE is able to perform a timing re-initialised hard handover to another frequency after compressed mode measurement on the target frequency in conjunction with a serving HS-DSCH cell change according to the received PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.48.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 on frequency f_1, and cell 6 on frequency f_2. Cells 1 and 6 have different primary scrambling codes.

UE: PS_DCCH_DTCH_HS_DSCH (state 6-17) as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statement(s)

- UE supports FDD
- UE supports HS-PDSCH
- Compressed mode required yes/no

Test Procedure

Table 8.2.6.48

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		f_1		f_2	
CPICH Ec	dBm/3.84MHz	-60	-70	-70	-60

Table 8.2.6.48 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE is in CELL_DCH state and has a radio bearer mapped on HS-DSCH established in cell 1. The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.48.

The SS configures then compressed mode (if required), to prepare the UE for inter-frequency measurements, by sending a PHYSICAL CHANNEL RECONFIGURATION message on DCCH using AM-RLC. The UE shall answer with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

The SS then sets up inter-frequency measurements (event 2b), by sending a MEASUREMENT CONTROL message to the UE. Compressed mode is started at the same time in that message (if required).

The SS then applies the power settings according to column “T1” in table 8.2.6.48. The UE transmits a MEASUREMENT REPORT message to the SS.

The SS then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE ordering the UE to change to Cell 6 on frequency f_2. At the activation time the UE changes to Cell 6 keeping the HS-PDSCH configuration. Finally the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

NOTE: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		

1	←	PHYSICAL CHANNEL RECONFIGURATION	The SS downloads the compressed mode parameters in the UE.
2	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE acknowleges the downloading of the compressed mode parameters.
3	←	MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE, and activates compressed mode.
4			The SS changes the power of the cells according to column T1 in table 8.2.6.48.
5	→	MEASUREMENT REPORT	Frequency f_2 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.
6	←	PHYSICAL CHANNEL RECONFIGURATION	The SS instructs the UE to change to Cell 6.
7	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
8	←→	CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 titled as "Packet to CELL_DCH from CELL_DCH in PS" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark	Version
Downlink HS-PDSCH Information		
- HS-SCCH Info	Not present	
- Measurement Feedback Info	Not present	
- CHOICE mode	FDD (no data)	
Downlink information common for all radio links		
- Downlink DPCH info common for all RL	Not Present	
- DPCH compressed mode info		
- TGPSI	1	
- TGPS Status Flag	Deactivate	
- TGCFN	Not present	
- Transmission gap pattern sequence configuration parameters		
- TGMP	FDD Measurement	
- TGPRC	Infinity	
- TGSN	4	
- TGL1	7	
- TGL2	Not Present	
- TGD	undefined	
- TGPL1	3	
- TGPL2	Not Present	R99 and REL-4 only
- RPP	Mode 0	
- ITP	Mode 0	
- CHOICE UL/DL Mode	UL and DL, UL only or DL only (depending on the UE capability)	
- Downlink compressed mode method	HLS	
- Uplink compressed mode method	HLS	
- Downlink frame type	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	Not Present	
- SSDT information	Not Present	
- Default DPCH Offset Value	Not Present	
Downlink information for each radio link	Not Present	

MEASUREMENT CONTROL (Step 3)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodical 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	1 inter-frequency cell
- Inter-frequency cell id	6
- Frequency info	Set to the frequency of cell 6
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Scrambling code of cell 6
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	Not present
- 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	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	TRUE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Measurement validity	
- UE State	CELL_DCH
- Inter-frequency set update	
- UE autonomous update	On with no reporting
- Non autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2b
- Threshold used frequency	-65 dBm
- W used frequency	0.0
- Hysteresis	1.0 dB
- Time to trigger	100 ms
- Reporting cell status	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per reported non-used frequency	2
- Parameters required for each non-used frequency	
- Threshold non used frequency	-65 dBm
- W non-used frequency	0
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (100 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Activate

- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 5)

Information Element	Value/Remark
Message Type	
Integrity check info	
- 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. The first/ leftmost bit of the bit string contains the most significant bit of the MAC-I.
- 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	2
Measured Results	
- Inter-frequency measured results list	
- Frequency info	Check that the value of this IE is set to the frequency of cell 6
- UTRA carrier RSSI	Check that this IE is absent
- Inter-frequency cell measurement results	Check that the value of this IE is set to 1 cell reported
- Cell measured results	
- Cell Identity	Check that this IE is absent
- SFN-SFN observed time difference	Check that this IE is absent
- Cell synchronisation information	Check that this IE is absent
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code of cell 6
- CPICH Ec/N0	Check that this IE is present
- CPICH RSCP	Check that this IE is present
- Pathloss	Check that this IE is absent
Measured results on RACH	Check that this IE is absent
Additional measured results	Check that this IE is absent
Event results	
- Inter-frequency measurement event results	
- Inter-frequency event identity	2b
- Inter-frequency cells	
- Frequency info	Check that the value of this IE is set to the frequency of cell 6
- Non freq related measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check that the value of this IE is set to Scrambling code of cell 6

PHYSICAL CHANNEL RECONFIGURATION (Step 6)

Use the same message as specified for "Packet to CELL_DCH from CELL_DCH in PS" in 34.108 except for the following:

Information Element	Value/remark
New H-RNTI	'0101 0101 0101 0101'
Frequency info	Set to the frequency of cell 6
Downlink HS-PDSCH Information	
- HS-SCCH Info	
- CHOICE mode	FDD
- DL Scrambling Code	
- HS-SCCH Channelisation Code Information	
- HS-SCCH Channelisation Code	2
- Measurement Feedback Info	
- CHOICE mode	FDD
- POhsdsch	6 dB
- CQI Feedback cycle, k	4 ms
- CQI repetition factor	1
- Δ_{CQI}	5 (corresponds to 0dB in relative power offset)
- CHOICE mode	FDD (no data)
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing indication	Initialise
- CFN-targetSFN frame offset	0
- Downlink DPCH power control information	Not Present
- Downlink 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
- DPCH compressed mode info	Not present
- TX Diversity mode	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Arbitrary set to value 0..306688 by step of 512
- MAC-hs reset indicator	TRUE
Downlink information per radio link list	1 radio link
Downlink information for each radio link	
- CHOICE mode	FDD
- Primary CPICH info	Set to the scrambling code for cell 6
- Cell ID	Not present
- PDSCH with SHO DCH info	Not present
- PDSCH code mapping	Not present
- Serving HS-DSCH radio link indicator	TRUE
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not present
- DL channelisation code	Reference to TS34.108 clause 6.10 Parameter Set
- Secondary scrambling code	Not present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	Any value between 0 and Spreading factor-1
- Scrambling code change	Not Present
- TPC combination index	0
- SSDT cell identity	Not present
- Closed loop timing adjustment mode	Not present

8.2.6.48.5 Test requirements

After step 1, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

After step 4, the UE shall transmit a MEASUREMENT REPORT message with cell 6 as the reported cell.

After step 6, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message in cell 6.

<End of modified section>

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CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1157** ⌘**rev** **-** ⌘ Current version: **5.11.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME [X] Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of table number in Test 8.2.3.24
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**D**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Table 8.2.3.24 is incorrectly labelled as Table 8.2.**4**.24.
Summary of change:	⌘	a) Change Table number to be "8.2.3.24"
Consequences if not approved:	⌘	Table number wrong and inconsistent with text.

Clauses affected:	⌘	8.2.3.24.4			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	This CR does not have impact on the TTCN.			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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.

8.2.3.24 Radio Bearer Release for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success

8.2.3.24.1 Definition

8.2.3.24.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.24.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_DCH according to the RADIO BEARER RELEASE message.
2. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.3.24.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Table 8.2.34.24

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-72

Table 8.2.3.24 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.24. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RELEASE message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code which is assigned to P-CPICH of cell 6. The UE shall select cell 6 and release the radio access bearer after receiving this message, and then remain in CELL_DCH state. The UE transmits a RADIO BEARER RELEASE COMPLETE message using AM RLC after it completes reconfiguration according to received RADIO BEARER RELEASE message. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Note: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.24.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.24.
3	←		RADIO BEARER RELEASE	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6.
4				The UE select cell 6.
5	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 3)

The contents RADIO BEARER RELEASE message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_DCH in PS" or "Speech in CS" or "Non speech in CS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd) Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	 Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6 Set to same code as used for cell 6

8.2.3.24.5 Test requirement

After step 4 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 6.

After step 5 the UE shall be in CELL_DCH state in cell 6.

3GPP TSG-R5 Meeting #27
Bath, UK, 25th – 29th April 2005

Tdoc ⌘R5-050505

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **1158** ⌘**rev** **-** ⌘ Current version: **5.b.1** ⌘

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

Proposed change affects: | UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to Package 2 RRC test case 8.3.1.21
Source:	⌘	3GPP TSG RAN WG5 (Testing)
Work item code:	⌘	TEI
Date:	⌘	15/04/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	According to section 8.1.1.1.2 of 25.331, a UE in Connected Mode will read only Connected mode SIBs if Connected Mode SIBs are broadcasted and will not read Idle mode SIBs. However, in test case 8.3.1.21, though the UE is in Connected Mode in the expected sequence only Idle Mode SIBs (SIB 3) are modified. A conformant UE will FAIL to behave according to the test case since the UE will not be able to read the modification made to the Idle mode SIBs as per the expected sequence at Step 1a.
Summary of change:	⌘	Following changes are made to **34.123-1** section **8.3.1.21.4**: 1) Replaced SIB 3 with SIB 4 in the expected sequence at Step 1a of the expected sequence. 2) Replaced specific message content for SIB 3 with SIB 4.
Consequences if not approved:	⌘	Test case may fail a conformant UE.

Clauses affected:	⌘	8.3.1.21.4

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
		X		Test specifications	
			X	O&M Specifications	

Other comments:	⌘	Affects R99, Rel4 and Rel5 UEs

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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.

<< START OF MODIFIED SECTION >>

8.3.1.21 Cell Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list

8.3.1.21.1 Definition

8.3.1.21.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1.- Cell reselection:

- if none of the criteria for performing cell update with the causes specified above in the current clause is met; and
- if the UE is in CELL_FACH or CELL_PCH state; and
- if the UE performs cell re-selection or the variable C_RNTI is empty:
  - perform cell update using the cause "cell reselection".

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.
   - 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.
   - The cell is not barred.
   - The cell is not part of the list of "forbidden LAs for roaming"
   - The cell selection criteria are fulfilled.
3. The Mobile Equipment shall store a list of "equivalent PLMNs". This list is replaced or deleted at the end of each location update procedure, routing area update procedure and GPRS attach procedure. The stored list consists of a list of equivalent PLMNs as downloaded by the network plus the PLMN code of the network that downloaded the list. The stored list shall not be deleted when the MS is switched off. The stored list shall be deleted if the SIM is removed. The maximum number of possible entries in the stored list is six.

Reference

3GPP TS 25.331 clause 8.3.1.2.

3GPP TS 25.304 clause 4.3.

3GPP TS 24.008 clause 4.4.1.

8.3.1.21.3 Test purpose

1 To confirm that the UE executes a cell update procedure after a successful reselection to another UTRA cell with a PLMN identity different from the original cell but with a PLMN identity that is part of the equivalent PLMN list in the UE.

2. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

NOTE: Verifies conformance requirement 1, 2 and 3.

3. To confirm that the UE refrains from executing a cell update procedure to a better UTRA cell with another PLMN identity when that PLMN identity is not part of the equivalent PLMN list in the UE.

NOTE: Verifies conformance requirement 1, 2 and 3.

NOTE: Test case in 8.3.1.1 is a test where the UE reselects to a cell with the same PLMN identity as the registered PLMN.

8.3.1.21.4 Method of test

Initial Condition

System Simulator: 3 cells - Cell 1 is active, with the downlink transmission power shown in column marked "T0" in table 8.3.1.21, while cell 4 and cell 7 is inactive.

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

UE: Shall have stored equivalent PLMN list containing PLMN-1 and PLMN-2. The equivalent PLMN list stored in the UE shall not contain PLMN-3.

Test Procedure

The SS activates Cell 1, 4 & 7 according table 8.3.1.21.

Table 8.3.1.21

Parameter	Unit	Cell 1			Cell 4			Cell 7		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 2			Ch. 3		
PLMN identity		PLMN-1			PLMN-2			PLMN-3		
CPICH Ec (FDD)	dBm	-60	-72	-72	Cell 2 is switched off	-60	-66	Cell 3 is switched off	Cell 3 is switched off	-60
P-CCPCH RSCP (TDD)	dBm	-62	-68	-62	Cell 2 is switched off	-62	-68	Cell 3 is switched off	Cell 3 is switched off	-62

Table 8.3.1.21-1 illustrates the downlink power to be applied for the 3 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.

a) At T1, the SS activates Cell 4, and monitors Cell 4 for received messages from UE.

b) UE re-selects to Cell 4, and sends a CELL UPDATE. The SS shall reply with CELL UPDATE CONFIRM message on downlink DCCH.

c) At T2, the SS activates Cell 7, and monitors Cell 7 for received messages from UE.

NOTE: If the UE fails the test because of a failure to reselect to a right cell, then the operator may re-run the test.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is camped on Cell 1 and registered to PLMN1
1a	←		MASTER INFORMATION BLOCK SCHEDULING BLOCK 1 SYSTEM INFORMATION BLOCK TYPE ~~3~~4 SYSTEM INFORMATION BLOCK TYPE 11	SS transmits MIB and SB1 with a new value Tag. Simultaneously SS transmits modified SIB ~~3~~4 and 11, with contents given in specific message contents
1b	←		SYSTEM INFORMATION CHANGE INDICATION	Including 'MIB Value TAG' set to the value currently being transmitted
1c				Wait 5 seconds to allow UE to read new system information
2	→		CELL UPDATE	At T1: Sent in Cell 4 The value "cell reselection" set in IE "Cell update cause".
3	←		CELL UPDATE CONFIRM	
4	→		UTRAN MOBILITY INFORMATION CONFIRM	
5				At T2: No message sent by UE

Specific Message Contents

System Information Block type ~~3~~4 (Step 1a)

Use the same message type found in clause 6.1.0b of TS 34.108, with the following exceptions:

- Qqualmin -16

System Information Block type 11 (Step 1a)

Use the same message type found in clause 6.1 of TS 34.108, with the following exceptions:

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

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type BCCH modification info MIB Value tag	 Set equal to Value tag sent in modified MIB in step 1a

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type titled "CELL UPDATE CONFIRM message" in TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
- New C-RNTI	'1010 1010 1010 1010'

8.3.1.21.5 Test requirement

After step 1c, the UE shall send a CELL UPDATE at T1.

After step 4, the UE shall refrain from sending a cell update (or any other message) after T2.

<< END OF MODIFIED SECTION >>