

Title CRs to 34.123-1 for approval Batch 2
Source 3GPP TSG RAN WG5 (Testing)
Agenda Item 7.6.5

WG Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R5-050506	34.123-1	1159	-	F	Rel-5	5.11.1	Correction to Package 4 Inter system cell reselection test case 8.3.9.1	TEI
R5-050589	34.123-1	1160	-	D	Rel-5	5.11.1	Correction to GCF WI-10 RRC Test Cases 8.3.1.3	TEI
R5-050596	34.123-1	1161	-	F	Rel-5	5.11.1	Updation of Table 8.3.7-1 in section 8.3.7	TEI
R5-050610	34.123-1	1162	-	F	Rel-5	5.11.1	Correction to MIB, PLMN and Cell Value Tag Value Definition to 8.3	TEI
R5-050612	34.123-1	1163	-	F	Rel-5	5.11.1	Correction to RRC test case 8.3.11.4 (WI-010)	TEI
R5-050635	34.123-1	1164	-	F	Rel-5	5.11.1	Correction to GCF WI-010 test cases 8.3.1.10 and 8.3.2.4	TEI
R5-050754	34.123-1	1165	-	F	Rel-5	5.11.1	CR to 34.123-1: Correction to GCF WI-012 RRC test case 8.3.1.30.	TEI
R5-050784	34.123-1	1166	-	F	Rel-5	5.11.1	Correction to RRC test case 8.3.1.18 (WI-010)	TEI
R5-050790	34.123-1	1167	-	F	Rel-5	5.11.1	Correction to RRC test cases 8.3.4.1, 8.3.4.2 (P1), 8.3.4.8 (WI-12), 8.3.4.4, 8.3.4.5 (Low priority)	TEI
R5-050800	34.123-1	1168	-	F	Rel-5	5.11.1	Corrections to GCF WI-010 (P4) approved test case 8.3.7.5	TEI
R5-050926	34.123-1	1169	-	F	Rel-5	5.11.1	Correction to GCF WI-10 RRC Test Cases 8.3.7.13	TEI
R5-050927	34.123-1	1170	-	F	Rel-5	5.11.1	Removal of TGPL2 for section 8.3	TEI
R5-050930	34.123-1	1171	-	F	Rel-5	5.11.1	Correction to RRC Package 4 testcase 8.3.1.18	TEI
R5-050931	34.123-1	1172	-	F	Rel-5	5.11.1	Correction to Package 4 Inter-system handover test case 8.3.7.12	TEI
R5-050932	34.123-1	1173	-	D	Rel-5	5.11.1	Correction to GCF WI-10 Inter-RAT Test Case 8.3.7.12	TEI
R5-050937	34.123-1	1174	-	F	Rel-5	5.11.1	Correction to Package 3 RRC test case 8.3.2.13	TEI
R5-050940	34.123-1	1175	-	B	Rel-5	5.11.1	Addition of new Rel-5 RRC test cases to 34.123-1 for Inter-RAT Network Assisted Cell Change	TEI
R5-050942	34.123-1	1176	-	B	Rel-5	5.11.1	Addition of new Rel-5 test cases for CELL_FACH and CELL_PCH state specific handling of Treselection and Qhyst parameters in cell reselection to 34.123-1	TEI
R5-050944	34.123-1	1177	-	F	Rel-5	5.11.1	Correction to Package 3 RRC test case 8.3.1.23	TEI
R5-050945	34.123-1	1178	-	F	Rel-5	5.11.1	Correction to Package 3 RRC test case 8.3.1.24	TEI

CHANGE REQUEST

34.123-1 CR 1159 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 Package 4 Inter system cell reselection test case 8.3.9.1		
Source:	3GPP TSG RAN WG5 (Testing)		
Work item code:	TEI	Date:	15/04/2005
Category:	F	Release:	Rel-5
	<i>Use one of the following categories:</i> 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 .		<i>Use one of the following releases:</i> 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:	As per the test procedure at step i) the step a-e) will be repeated with the same initial conditions. However this will not bring the second loop of the test case to a logical end.
Summary of change:	The test procedure at step i) is updated to mention that the step a-h) will be repeated with the same initial conditions
Consequences if not approved:	Test case will not meet the test purpose.

Clauses affected:	8.3.9.1.4						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	Other core specifications	
Y	N						
X	X						
	X	Test specifications					
	X	O&M Specifications					
Other comments:	This CR does not require 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 >>**8.3.9.1 Cell reselection if cell becomes barred or $S < 0$; UTRAN to GPRS (CELL_FACH)****8.3.9.1.1 Definition**

Test to verify that if both a GSM/GPRS and UTRAN network is available, the UE performs cell reselection from UTRAN to GSM/GPRS if the UTRAN cell becomes barred or S falls below zero.

8.3.9.1.2 Conformance requirement

1. The purpose of the inter-RAT cell reselection procedure from UTRAN is to transfer, under the control of the UE and to some extent the UTRAN, a connection between the UE and UTRAN to another radio access technology (e.g. GSM/GPRS).
2. This procedure is applicable in states CELL_FACH, CELL_PCH or URA_PCH. When the UE based on received system information makes a cell reselection to a radio access technology other than UTRAN, e.g. GSM/GPRS, according to the criteria specified in [4], the UE shall:
 - 1> If the NAS procedures associated with inter-system change specified in [5] require the establishment of a connection:
 - 2> initiate the establishment of a connection to the target radio access technology according to its specifications.
3. When the UE has succeeded in reselecting a cell in the target radio access technology, the UE shall:
 - 1> release all UTRAN specific resources.

References

TS 25.331, clause 8.3.9

8.3.9.1.3 Test purpose

1. To verify that the UE performs reselection from UTRAN to GPRS in the state CELL_FACH on the following occasions:
 - Serving cell becomes barred.
 - $S < 0$ for serving cell.
2. To verify when the UE has succeeded in reselecting a cell in the target radio access technology and has initiated the establishment of a connection, it shall release all UTRAN specific resources.

8.3.9.1.4 Method of test**Initial conditions**

System Simulator: 3 cells – Cell 1 is UTRAN FDD, Cell 2 is GPRS and Cell 3 is GSM. 51.010 clauses 20.22 and 40.1.1 shall be referenced for the default parameters of cell 2. 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 3.

All cells belong to the same PLMN. UTRAN and GPRS cells belong to different location area.

The Inter-RAT Cell Info List of Cell 1 (UTRAN) refers to Cell 2 (GPRS) and Cell 3 (GSM).

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

UE: Power-Off (State 1) as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statement

- UE supports both GSM/GPRS and UTRAN Radio Access Technologies,
- UE supports Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480,

Step a-c:

Parameter	Unit	Cell 1 (UTRAN)
Test Channel		1
CPICH Ec (FDD)	dBm	-60
P-CCPCH RSCP (TDD)	dBm	-60
Qrxlevmin	dBm	-101
Srxlev*	dBm	41
CellBarred		Not barred

Parameter	Unit	Cell 2 (GPRS)
Test Channel		1
RF Signal Level	dBm	-75
RXLEV_ACCESS_MIN	dBm	-100
C1*	dBm	25
FDD_Qmin	dB	-20
FDD_Qoffset	dBm	0

Parameter	Unit	Cell 3 (GSM)
Test Channel		2
RF Signal Level	dBm	-85
RXLEV_ACCESS_MIN	dBm	-100
C1*	dBm	15
FDD_Qmin	dB	-20
FDD_Qoffset	dBm	0

Step d-f:

Parameter	Unit	Cell 1 (UTRAN)
CellBarred		Not barred -> Barred
Tbarred	S	80

Step i:

Parameter	Unit	Cell 1 (UTRAN)
Qrxlevmin	DB	-101 -> -41
Srxlev*	DB	41 -> -19

Test procedure

- The SS activates cells 1, 2, and 3. The SS monitors cells 1, 2 and 3 for random access requests from the UE.
- The UE is switched on.
- The SS brings the UE to PS-DCCH+DTCH_FACH (State 6-11).
- The SS sets Cell 1 to be barred.
- The SS sends SYSTEM INFORMATION CHANGE INDICATION message to UE to inform UE of the modification in the system information.
- The SS waits for channel request from the UE SS sends an IMMEDIATE ASSIGNMENT REJECT to bring the UE to idle mode..
- The SS pages the UE with PAGING TYPE 2 in Cell 1 (UTRAN), if UE does not respond by transmitting an upper layer message to answer this page, it means UE has released the UTRAN resources.
- The UE is switched off.
- Step ~~a-e)~~ a-h) is repeated with the same initial conditions except that in step d), Qrxlevmin is increased, so S will become negative instead of being barred.

8.3.9.1.5 Test Requirements

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

In step g), the UE shall not respond in UTRAN cell.

In step i), the UE shall respond on Cell 2 after Qrxlevmin is increased.

<< END OF MODIFIED SECTION >>

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

Tdoc **R5-050589**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1160 ⌘ 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 8.3.1.3		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 10/04/2005
Category:	⌘ D	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Editorial change to add in a missing word.
Summary of change:	⌘ In step 8 of the expected sequence diagram, the comment has been modified
Consequences if not approved:	⌘ The prose will be incorrect.

Clauses affected:	⌘ 8.3.1.3.4								
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> ⌘ Other core specifications ⌘ ⌘ Test specifications ⌘ ⌘ O&M Specifications ⌘	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N								
<input type="checkbox"/>	<input checked="" type="checkbox"/>								
<input type="checkbox"/>	<input checked="" type="checkbox"/>								
<input type="checkbox"/>	<input checked="" type="checkbox"/>								
Other comments:	⌘ No change to TTCN required.								

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8.3.1.3 Cell Update: periodical cell update in CELL_FACH

8.3.1.3.1 Definition

8.3.1.3.2 Conformance requirement

UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

...

1> Re-entering service area:

...

1> RLC unrecoverable error:

...

1> Cell reselection:

...

1> Periodical cell update:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_FACH or CELL_PCH state; and

2> if the timer T305 expires; and

2> if the criteria for "in service area" as specified in TS 25.331 subclause 8.5.5.2 is fulfilled; and

2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":

3> perform cell update using the cause "periodical cell update".

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

...

1> move to CELL_FACH state, if not already in that state;

...

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

1> in case of a cell update procedure:

2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the CELL UPDATE message for transmission on the uplink CCCH.

1> set counter V302 to 1;

1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

...

In case of cell update procedure the UE shall transmit a CELL UPDATE message.

The UE shall set the IEs in the CELL UPDATE message as follows:

1> set the IE "Cell update cause" corresponding to the cause specified in TS 25.331 subclause 8.3.1.2 that is valid when the CELL UPDATE message is submitted to lower layers for transmission;

NOTE: During the time period starting from when a cell update procedure is initiated by the UE until when the procedure ends, additional CELL UPDATE messages may be transmitted by the UE with different causes.

1> set the IE "U-RNTI" to the value of the variable U_RNTI;

...

When the UE receives a CELL UPDATE CONFIRM message; and

- 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
- if the message is received on DCCH:

the UE shall:

1> stop timer T302;

...

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

1> enter a state according to TS 25.331 subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

If the UE after state transition remains in CELL_FACH state, it shall

1> start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";

1> select PRACH according to TS 25.331 subclause 8.5.17;

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

1> not prohibit periodical status transmission in RLC;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

If the UE after the state transition remains in CELL_FACH state; and

- a C-RNTI is stored in the variable C_RNTI;

or

- the UE after the state transition moves to another state than the CELL_FACH state:

the UE shall:

1> in case of a cell update procedure:

2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry.

1> transmit a response message as specified in TS 25.331 subclause 8.3.1.7;

1> in case of a cell update procedure:

2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

1> set the variable CELL_UPDATE_STARTED to FALSE;

1> clear the variable SECURITY_MODIFICATION.

...

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.

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.

...

When the UE receives a UTRAN MOBILITY INFORMATION message, it shall:

1> act on received information elements as specified in TS 25.331 subclause 8.6;

1> if the IE "UE Timers and constants in connected mode" is present:

2> store the values of the IE "UE Timers and constants in connected mode" in the variable TIMERS_AND_CONSTANTS, replacing any previously stored value for each timer and constant; and

2> for each updated timer value:

3> start using the new value next time the timer is started;

2> for each updated constant value:

3> start using the new value directly;

1> set the IE "RRC transaction identifier" in the UTRAN MOBILITY INFORMATION CONFIRM message to the value of "RRC transaction identifier" in the entry for the UTRAN MOBILITY INFORMATION message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;

...

Reference

3GPP TS 25.331 clause 8.3.1, 8.3.3.3.

8.3.1.3.3 Test purpose

1. To confirm that the UE executes a periodical cell update procedure following the expiry of timer T305.

8.3.1.3.4 Method of test

Initial Condition

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

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

Test Procedure

Table 8.3.1.3

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-69	-69	-60
P-CCPCH RSCP (TDD)	dBm	-60	-69	-69	-60

Table 8.3.1.3 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE is in CELL_FACH state. When the UE detects the expiry of timer T305 according to the settings in system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH with a cause indicating periodical cell updating. SS replies with a CELL UPDATE CONFIRM message, and IE "RRC State Indicator" is set to "CELL_FACH". SS verifies that the UE does not transmit any uplink message. SS then waits for T305 to expire again. The UE shall send another CELL UPDATE message to report periodic cell updating. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs "new C-RNTI", "new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. Next, SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "infinity", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.3, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. SS then monitors the uplink CCCH for a period of 60 minutes (ideally the SS should monitor this up to the maximum possible value for timer T305 (720 minutes)),

but for practical reasons 60 minutes (twice default timer of 30 minutes) is regarded as being sufficient) and verifies that no CELL_UPDATE message is received. After this, the SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to '5', to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.3, causing the UE to enter CELL_FACH state in cell 1 and transmit a CELL_UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL_UPDATE_CONFIRM. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. UE shall resume periodic cell updating procedure and transmit CELL_UPDATE message after T305 (5 minutes) expires.

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. SS waits until T305 has expired.
2		→	CELL_UPDATE	IE "Cell update cause" shall be set to "periodical cell updating"
3		←	CELL_UPDATE_CONFIRM	No RNTI identities are given. No information on PRACH and S-CCPCH are provided.
4				SS verifies that no uplink message is received from UE. SS waits for another period to allow T305 to expire.
5		→	CELL_UPDATE	Set to "periodical cell update" in IE "Cell update cause" upon the expiry of timer T305.
6		←	CELL_UPDATE_CONFIRM	Including IEs "new C-RNTI", "new U-RNTI" and IE "RRC State Indicator" is set to "CELL_FACH"
7		→	UTRAN_MOBILITY_INFORMATION_CONFIRM	

8	←	UTRAN MOBILITY INFORMATION	IE "T305" is set to Infinity .
9	→	UTRAN MOBILITY INFORMATION CONFIRM	
10			SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.3.1.3
11	→	CELL UPDATE	IE "Cell update cause" shall be set to "cell reselection".
12	←	CELL UPDATE CONFIRM	
12a	→	UTRAN MOBILITY INFORMATION CONFIRM	
13			SS waits for 60 minutes and checks that no CELL UPDATE message is transmitted on uplink PRACH channel.
14	←	UTRAN MOBILITY INFORMATION	IE "T305" is set to '5.
15	→	UTRAN MOBILITY INFORMATION CONFIRM	
16			SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.3
17	→	CELL UPDATE	IE "Cell update cause" shall be set to "cell reselection".
18	←	CELL UPDATE CONFIRM	
18a	→	UTRAN MOBILITY INFORMATION CONFIRM	
19	→	CELL UPDATE	UE shall transmit this message with "cell update cause" set to "periodical cell updating" after T305 expires.
20	←	CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2 and 5)

The same message found in TS 34.108, clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
---------------------	--------------

U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'periodical cell updating'
--	---

CELL UPDATE (Step 11 and 17)

The same message found in TS 34.108, clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to same bit string as in IE "S-RNTI" in IE "U-RNTI" of the CELL UPDATE CONFIRM message sent in step 6. Check to see if set to "cell reselection"

CELL UPDATE CONFIRM (Step 3 and 20)

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

CELL UPDATE CONFIRM (Step 6, 12 and 18)

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

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI New C-RNTI	Set to '0000 0000 0001' Set to an arbitrary string different from '0000 0000 0000 0000 0001' '1010 1010 1010 1010'

CELL UPDATE (Step 19)

The same message found in TS 34.108, clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to same bit string as in IE "S-RNTI" in IE "U-RNTI" of the CELL UPDATE CONFIRM message sent in step 6. Check to see if set to 'periodical cell updating'

UTRAN MOBILITY INFORMATION (Step 8)

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

Information Element	Value/remark
New U-RNTI New C-RNTI UE Timers and constants in connected mode - T305	Not Present Not Present infinity

UTRAN MOBILITY INFORMATION (Step 14)

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

Information Element	Value/remark
New U-RNTI	Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode - T305	5

8.3.1.3.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 and then transmits a CELL UPDATE message setting value "periodical cell update" into IE "Cell update cause".

After step 3 the UE shall not send any uplink message as a response to CELL UPDATE CONFIRM message sent in step 3.

After step 4 the UE shall send a CELL UPDATE message, specifying the cell updating cause to be "periodical cell update".

After step 6 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

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

After step 10, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 12, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

Between step 12a and 14, the UE shall not transmit any CELL UPDATE message.

After step 14, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 16, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 18, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 18a, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "periodical cell update" on the uplink CCCH.

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

Tdoc **R5-050596**

CR-Form-v7
CHANGE REQUEST
ⓘ 34.123-1 CR 1161 ⓘ 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: ⓘ	Updation of Table 8.3.7-1 in section 8.3.7		
Source: ⓘ	3GPP TSG RAN WG5 (Testing)		
Work item code: ⓘ	TEI	Date: ⓘ	12/04/2005
Category: ⓘ	F	Release: ⓘ	Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change: ⓘ	Test case 8.3.7.14, 8.3.7.15, 8.3.7.16 and 8.3.7.17 are missing from Table 8.3.7-1
Summary of change: ⓘ	Table 8.3.7-1 is updated to ensure consistency with remaining 8.3.7 series test cases
Consequences if not approved: ⓘ	Newsly added test cases will be missing from Table 8.3.7-1

Clauses affected: ⓘ	Table 8.3.7-1										
Other specs affected: ⓘ	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	ⓘ
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
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.

Table 8.3.7-1

From	To	State of call	Ref. clause	Exec counter	Remark
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.12	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U1	8.3.7.13	1	call under establishment
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + interactive/ background UL: 32kbps, DL :(max bit rate depending on UE category) PS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM AMR	U10	8.3.7.14	4	Call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + interactive/ background UL: 32kbps, DL :(max bit rate depending on UE category) PS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM AMR	U10	8.3.7.15	1	Failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + interactive/ background UL: 64kbps, DL :64kbps PS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.16	1	Call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + interactive/ background UL: 64kbps, DL :64kbps PS RAB + uplink:3.4 DL3.4 kbps SRBS)	DTM	U10	8.3.7.17	1	Call active state

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

Tdoc **R5-050610**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1162 ⌘ 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 MIB, PLMN and Cell Value Tag Value Definition to 8.3		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 10/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) 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.										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N	⌘	X	⌘	X	⌘	X		
Y	N										
⌘	X										
⌘	X										
⌘	X										
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:

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.

8.3.1.9 Cell Update: re-entering of service area after T305 expiry and being out of service area

8.3.1.9.1 Definition

8.3.1.9.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

...

1> Re-entering service area:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_FACH or CELL_PCH state; and

2> if the UE has been out of service area and re-enters service area before T307 or T317 expires:

3> perform cell update using the cause "re-entering service area".

...

When the T305 expires and the UE detects that it is "out of service area" as specified in TS 25.331 subclause 8.5.5.1, the UE shall

1> start timer T307;

...

If the UE detects "in service area" according to TS 25.331 subclause 8.5.5.2 and timer T307 or T317 is running, the UE shall:

1> check the value of V302; and

1> if V302 is equal to or smaller than N302:

2> in case of a cell update procedure:

3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the CELL UPDATE message for transmission on the uplink CCCH.

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.9.3 Test purpose

1. To confirm that the UE performs a cell search after experiencing an "out of service area" condition following the expiry of timer T305.
2. To confirm that the UE initiates cell updating procedure if it manages to re-enter the service area.

8.3.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108, using the specific message contents as specified below.

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
T305	5 minutes
T307	50 seconds
T317	600 seconds

Specific timer tolerances

Use the same timer tolerances found in subclause 4.2.3 of TS 34.108, with the following exceptions.

T305: +/- 10 s

T307: +/- 2 s

Test Procedure

Table 8.3.1.9

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec (FDD)	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.1.9 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in the CELL_FACH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.9 so that $S < 0$. Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value, SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.9 so that $S > 0$. The UE shall find that it is back in service area, and transmit a CELL_UPDATE message to the SS on the uplink CCCH. In this message, the IE "Cell update cause" shall be set to "re-entered service area". After the SS receives this message, it transmits a CELL_UPDATE_CONFIRM message with the IE "RRC State Indicator" set "CELL_PCH" on the downlink DCCH. The UE shall enter CELL_PCH state. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.9 so that $S < 0$. Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value,

SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.9 so that $S > 0$. The UE shall find that it is back in service area, move to CELL_FACH and transmits a CELL UPDATE message to the SS on the uplink CCCH. In this message, the IE "Cell update cause" shall be set to "re-entered service area". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message on the downlink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1.
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	SYSTEM INFORMATION CHANGE INDICATION	
2				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.9 so that its S value falls below 0.
3				The UE shall detect a "out of service" condition upon expiry of timer T305 and it shall search for other cells to camp on. (T307 timer starts)
4				SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.9.
5		→	CELL UPDATE	The value "re-entered service area" shall be found in IE "Cell update cause" in this message
6		←	CELL UPDATE CONFIRM	"RRC State Indicator" is set to "CELL_PCH"
7				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.9 so that its S value falls below 0 and waits 5 minutes and 20 seconds until T305 has expired.

8			SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.9.
9	→	CELL UPDATE	UE shall move to CELL_FACH. It shall transmit this message with cell update cause set to "re-entered service area"
10	←	CELL UPDATE CONFIRM	

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

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

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type BCCH modification info MIB Value tag	2 Set equal to Value tag sent in modified MIB in step 1a

CELL UPDATE (Step 5 and 9)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 're-entered service area'

CELL UPDATE CONFIRM (Step 6 and 10)

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

Information Element	Value/remark
RRC State Indicator	CELL_PCH

UTRAN DRX cycle length coefficient	3
------------------------------------	---

8.3.1.9.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message in which the IE "Cell update cause" is set to the value "re-entered service area".

After step 8 the UE shall move to CELL_FACH and then transmit a CELL UPDATE message, with the IE "Cell Update Cause" set to "re-entered service area".

8.3.1.10 Cell Update: expiry of T307 after T305 expiry and being out of service area

8.3.1.10.1 Definition

8.3.1.10.2 Conformance requirement

When the T307 expires, the UE shall:

- 1> move to idle mode;
- 1> release all dedicated resources;
- 1> perform other actions when entering idle mode from connected mode as specified in TS 25.331 subclause 8.5.2;
- 1> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.10.3 Test purpose

- 1 To confirm that the UE moves to idle mode after the expiry of T307, indicating that it is out of service area when attempting to perform a periodic cell updating procedure.

8.3.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell

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

Timer T305 is set to 5min.

Test Procedure

Table 8.3.1.10

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec (FDD)	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.1.10 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_FACH state at the start of the test. Before the expiry of periodic cell updating timer T305, the content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified.

After T305 expires, UE shall transmit CELL UPDATE message with IE "cell update cause" set to "periodical cell update". SS shall transmit CELL UPDATE CONFIRM message. Now the UE and

SS are synchronized. Immediately after the cell update procedure is finalized, the SS starts a delay timer T_{delay} (see below for limits on the timer value). When T_{delay} expires the SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.10 so that $S < 0$ and this results in a "out of service area" condition. The SS continues to listen to the uplink channel to detect possible attempts to perform a cell updating procedure. The UE shall not send any CELL UPDATE message on the uplink CCCH, instead it triggers timer T307 after expiry of T305. After the expiry of timer $T305 + T307 + 10\%$ margin since completion of the cell update procedure, SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.10 so that $S > 0$, the UE shall enter idle state. SS waits for 15s and then calls for generic procedure C.1 to check that UE is in idle mode state.

Note 1 : The value chosen for T_{delay} should be midway between the following logical minimum and maximum values:

$$\text{Minimum} > T305 + T307 - T317$$

$$\text{Maximum} < T305$$

Note 2 : TS 25.331 (from June 2003) specifies that the UE should treat any value of T317 received from UTRAN as though it is equal to infinity. Nevertheless, the value of T317 used in Note 1 should be the value broadcast in SIB1 by the SS (or the implied default value if none is broadcast).

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state.
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	SYSTEM INFORMATION CHANGE INDICATION	
1c		→	CELL UPDATE	IE "Cell update cause" shall be set to "periodical cell update".
1d		←	CELL UPDATE CONFIRM	
1e				SS waits T_{delay} (see above)
2a				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.10 so that the cell is no longer suitable for camping. The UE shall detect that it is out of service area and refrains from transmitting CELL UPDATE message due to periodic cell updating.
2b				SS waits a further $(T_{305}+T_{307}-T_{\text{delay}})+10\%$ for UE to enter idle mode.
3				The UE detects the expiry of timer T305 and it searches for other cells to camp on. After the expiry of timer T307, the UE shall enter idle mode. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.10 so that the cell is suitable for camping. SS waits for 15s.

Step	Direction		Message	Comment
	UE	SS		
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

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Value Tag	<u>2</u> A valid MIB value tag as defined in TS 25.331 that is different from the previous value

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type BCCH modification info MIB Value tag	<u>2</u> Set equal to Value tag sent in modified MIB in step 1a

CELL UPDATE (Step 1c)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

--	--

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'periodical cell updating'

8.3.1.10.5 Test requirement

After step 3 the UE shall move to idle mode.

8.3.1.11 Cell Update: Success after T302 time-out

8.3.1.11.1 Definition

8.3.1.11.2 Conformance requirement

If any or several of the following conditions are true:

- expiry of timer T302;

...

the UE shall:

- 1> check whether it is still in "in service area";
- 1> in case of a cell update procedure:
 - 2> clear any entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS.

If the UE detects "in service area" if it has not entered idle mode, and:

- 1> if V302 is equal to or smaller than N302, the UE shall:
 - 2> in case of a cell update procedure:
 - 3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 3> submit the CELL UPDATE message for transmission on the uplink CCCH.
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302, the UE shall:

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.11.3 Test purpose

1. To confirm that the UE repeats the transmission of CELL UPDATE message after failing to receive any response from the SS before T302 timer expires.

8.3.1.11.4 Method of test

Initial Condition

System Simulator: 1 cell

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

Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH. The IE "Cell update cause" in this message shall be set to "periodical cell update". SS ignores this message, and the UE shall then re-transmit a CELL UPDATE message after the expiry of timer T302. When the SS has received (N302+1) such messages, it transmits a CELL UPDATE CONFIRM message with new values for "C-RNTI" to the UE. Finally, the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. 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				The UE starts from CELL_FACH state. SS initializes its internal counter K to 0 and waits until the expiry of T305 timer.
2		→	CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause".
3				If K is equal to N302 then proceeds to step 5.
4				SS increments counter K, transmits no response to the UE and waits for an additional period equal to the value of timer T302. The next step is step 2.
5		←	CELL UPDATE CONFIRM	The message includes IEs "new C-RNTI". The IE "RRC State Indicator" is set to "CELL_FACH".
6		→	UTRAN MOBILITY INFORMATION CONFIRM	
7		↔	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

CELL UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Periodic cell updating'

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
New C-RNTI	Set to an arbitrary string different from '1010 1010 1010 1010'

8.3.1.11.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmit a CELL UPDATE message on the uplink CCCH, setting "periodical cell update" into IE "Cell update cause".

After step 2 the UE shall re-transmits a CELL UPDATE message after the expiry of timer T302. A total of (N302+1) transmissions of CELL UPDATE message shall be detected in SS.

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and stay at CELL_FACH state.

8.3.1.12 Cell Update: Failure (After Maximum Re-transmissions)

8.3.1.12.1 Definition

8.3.1.12.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

...

1> Periodical cell update:

...

2> if the UE is in CELL_FACH or CELL_PCH state; and

2> if the timer T305 expires; and

2> if the criteria for "in service area" as specified in subclause 8.5.5.2 in TS 25.331 is fulfilled; and

2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":

3> perform cell update using the cause "periodical cell update".

...

In case of cell update procedure the UE shall transmit a CELL UPDATE message.

...

The UE shall set the IEs in the CELL UPDATE message as follows:

1> set the IE "Cell update cause" corresponding to the cause specified in subclause 8.3.1.2 in TS 25.331 that is valid when the CELL UPDATE message is submitted to lower layers for transmission;

...

If any or several of the following conditions are true:

- expiry of timer T302;

...

the UE shall:

1> stop T302 if it is running;

...

1> check whether it is still in "in service area" (see subclause 8.5.5.2) in TS 25.331;

...

1> in case of a cell update procedure:

2> clear any entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS.

...

If the UE detects "in service area" if it has not entered idle mode, and:

1> if V302 is equal to or smaller than N302, the UE shall:

...

1> if V302 is greater than N302, the UE shall:

...

2> in case of a cell update procedure:

3> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

...

2> release all its radio resources;

2> enter idle mode;

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

2> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.3, 8.3.1.1.2.

8.3.1.12.3 Test purpose

1. To confirm that the UE repeats the cell update procedure upon the expiry of timer T302 and moves to idle state when its internal counter V302 is greater than N302.

8.3.1.12.4 Method of test

Initial Condition

System Simulator: 1 cell

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

Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodic cell updating procedure. The SS ignores this message, and the UE shall attempt to re-transmit a CELL UPDATE message up to a maximum of (N302) times after the expiry of timer T302. After (N302) attempts of retransmission, the UE shall return to idle state. SS waits for 5s and then 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_FACH state. SS sets its internal counter K=0 and waits for a period equals to timer value T305.
2		→	CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause".
3				SS transmits no response to the UE and increments counter K with 1.
4				SS waits for an additional period equal to T302 timer and if K is not greater than N302, then next step is step 2. Else the next step is step 5.
5				The UE shall enter idle mode state.
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

CELL UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Periodical cell update'

8.3.1.12.5 Test requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodical cell update" into IE "Cell update cause".

After step 3 and if K is not greater than N302, the UE shall retry to transmit a CELL UPDATE message.

After step 3 and if K is greater than N302, the UE shall stop transmitting CELL UPDATE message and then enters idle state.

8.3.1.13 Cell Update: Reception of Invalid CELL UPDATE CONFIRM Message

8.3.1.13.1 Definition

8.3.1.13.2 Conformance Requirement

If the UE receives an CELL UPDATE 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> If `V302` is equal to or smaller than `N302`, the UE shall:

2> set the variable `PROTOCOL_ERROR_INDICATOR` to `TRUE`;

2> in case of a cell update procedure:

3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the CELL UPDATE message for transmission on the uplink CCCH.

...

2> increment counter `V302`;

2> restart timer `T302` when the MAC layer indicates success or failure to transmit the message.

1> if `V302` is greater than `N302`, the UE shall:

...

2> release all its radio resources;

2> enter idle mode;

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

2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.11.

8.3.1.13.3 Test Purpose

1. To confirm that the UE retransmits a CELL UPDATE message when it receives an invalid CELL UPDATE CONFIRM message, before the number of retransmissions has reached the maximum allowed value.

8.3.1.13.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: `CELL_PCH` (state 6-12) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is brought to `CELL_PCH` state at the beginning of the test. SS pages the UE by sending a `PAGING TYPE 1` message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with an invalid CELL UPDATE CONFIRM message on downlink DCCH using UM RLC. The UE shall detect the protocol error and re-transmit a CELL UPDATE message up to a maximum of `N302` times. SS then transmit a valid CELL UPDATE CONFIRM message. Then the UE shall transmit an UTRAN MOBILITY

INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	The UE is in the CELL_PCH state. SS pages for the UE using the allocated connected mode identity (U-RNTI).
2		→	CELL UPDATE	Check that the value "paging response" is set in IE "Cell update cause".
3		←	CELL UPDATE CONFIRM	See specific message content.
4		→	CELL UPDATE	Check that the value "paging response" is set in IE "Cell update cause", the value "protocol error" is set in IE "failure cause" and the value "Message extension not comprehended" is set in IE "Protocol error information".
5		←	CELL UPDATE CONFIRM	See message content.
6		→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

Use the CELL UPDATE CONFIRM message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Critical extensions	'FF'H

CELL UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause Failure cause -Protocol error information	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response' Check to see if it is set to 'protocol error' Check to see if it is set to "Message extension not comprehended"

PAGING TYPE 1 (Step 1)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list - Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	UTRAN identity '0000 0000 0001' '0000 0000 0000 0000 0001'

CELL UPDATE CONFIRM (Step 5)

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

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

8.3.1.13.5 Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause".

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause", "protocol error" into IE "failure cause" and "Message extension not comprehended" into IE "Protocol error information".

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

8.3.1.14 Cell Update: Incompatible simultaneous reconfiguration

8.3.1.14.1 Definition

8.3.1.14.2 Conformance Requirement

In case of a cell update procedure and if the received CELL UPDATE CONFIRM message

- includes "RB information elements"; and/or
- includes "Transport channel information elements"; and/or
- includes "Physical channel information elements"; and
- the variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure;

and/or

- if the variable INCOMPATIBLE_SECURITY_RECONFIGURATION becomes set to TRUE of the received CELL UPDATE CONFIRM message:

the UE shall:

- 1> if V302 is equal to or smaller than N302:
 - 2> if, caused by the received CELL UPDATE CONFIRM message
 - ...
 - 3> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 4> set the variable ORDERED_RECONFIGURATION to FALSE.
 - 2> set the variable FAILURE_INDICATOR to TRUE;
 - 2> set the variable FAILURE_CAUSE to "Incompatible simultaneous reconfiguration";
 - 2> set the content of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1.9a

8.3.1.14.3 Test Purpose

1. To confirm that the UE retransmits a CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that includes "Physical channel information elements" and UE's variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure, before the number of retransmissions has reached the maximum allowed value.

8.3.1.14.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message contains IE "Physical channel information elements". Following that, SS immediately transmits another CELL UPDATE CONFIRM message contains IE "Physical channel information elements" before the "activation time" indicated in the previous CELL UPDATE CONFIRM message expires. The UE shall re-transmit a CELL UPDATE message with the same cause as the previous CELL UPDATE message and failure cause as "Incompatible simultaneous reconfiguration". SS then transmits a CELL UPDATE CONFIRM message to end the procedure.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	
2		→	CELL UPDATE	
3		←	CELL UPDATE CONFIRM	SS transmits this message including IE "Physical channel information elements".
4		←	CELL UPDATE CONFIRM	Sent before the activation time specified in the message in step 3 has elapsed.
5		→	CELL UPDATE	
6		←	CELL UPDATE CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response'

CELL UPDATE (Step 5)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause Failure cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response' Check to see if set to 'Incompatible simultaneous reconfiguration'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Activation Time Info Maximum allowed UL TX power	Current CFN-[current CFN mod 8 + 8] 30dBm

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Activation Time Info Maximum allowed UL TX power	Current CFN-[current CFN mod 8 + 8] 25dBm

PAGING TYPE 1 (Step 1)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

8.3.1.14.5 Test Requirement

After step 1, UE shall transmit a CELL UPDATE message.

After step 4 the UE shall re-transmit a CELL UPDATE message with failure cause set to "Incompatible simultaneous reconfiguration".

8.3.1.15 Cell Update: Unrecoverable error in Acknowledged Mode RLC SRB

8.3.1.15.1 Definition

8.3.1.15.2 Conformance Requirement

A UE shall initiate the cell update procedure in the following cases:

...

1> RLC unrecoverable error:

...

2> if the UE detects RLC unrecoverable error in an AM RLC entity:

3> perform cell update using the cause "RLC unrecoverable error".

...

In case of cell update procedure the UE shall transmit a CELL UPDATE message.

...

The UE shall set the IEs in the CELL UPDATE message as follows:

...

1> if an unrecoverable error in any of the AM RLC entities for the signalling radio bearers RB2, RB3 or RB4 is detected:

2> set the IE "AM_RLC error indication (RB2, RB3 or RB4)" to TRUE.

1> otherwise:

2> set the IE "AM_RLC error indication (RB2, RB3 or RB4)" to FALSE.

...

When the UTRAN receives a CELL UPDATE/URA UPDATE message, the UTRAN should:

...

1> initiate an RRC connection release procedure (see subclause 8.1.4 in TS 25.331) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:

2> if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:

- 3> initiate an RRC connection release procedure by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.3, 8.3.1.5

8.3.1.15.3 Test Purpose

- To confirm that the UE reports the occurrence of an unrecoverable error in a C-plane AM RLC entity by initiating cell update procedure.
- To confirm that UE enters idle mode state after receiving RRC CONNECTION RELEASE message on the downlink CCCH.

8.3.1.15.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE

The RRC CONNECTION SETUP message used in the initial setup should be as shown under Specific Message Contents below.

Test Procedure

The UE is initially in CELL_DCH state. SS sends a UE CAPABILITY ENQUIRY message on the DCCH using AM mode. The UE shall reply with a UE CAPABILITY INFORMATION message, sent using AM RLC on the DCCH.

SS does not acknowledge the AM PDUs carrying this message. The UE shall continue to re-transmit the AM PDU carrying UE CAPABILITY INFORMATION message until the maximum re-transmission count is reached.

Thereafter, the UE shall start sending RESET PDUs to request that the AM RLC entity for RRC signalling be re-initialized. SS ignores all RESET PDUs from the UE.

At this point, the UE shall initiate a cell update procedure by transmitting a CELL UPDATE message on the uplink CCCH. The CELL UPDATE message shall specify the value "TRUE" in IE "AM_RLC error indicator (RB2, RB3 or RB4)" and "RLC unrecoverable error" as the cell update cause.

SS sends RRC CONNECTION RELEASE message on the downlink CCCH to UE. SS waits for 5 s and then 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 initially in CELL_DCH state.
2		←	UE CAPABILITY ENQUIRY	
3		→	UE CAPABILITY INFORMATION	SS does not acknowledge any of the AM PDUs carrying the UE CAPABILITY INFORMATION message. The UE shall re-transmit these AM PDUs until the maximum number has been reached.
4				UE shall start to transmit a RESET PDU. SS does not respond to any RESET PDU frames originated from the UE.
5		→	CELL UPDATE	IE "AM_RLC Error Indication (RB2, RB3 or RB4)" shall be set to 'TRUE'
6		←	RRC CONNECTION RELEASE	Sends this message on the downlink CCCH and includes UE's UTRAN identity. After SS sent this message, 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 SETUP (message used in the initial setup)

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

Information Element	Value/remark
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	Not Present
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	Not Present
- 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 RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	1
- CHOICE RLC size list	Configured
- MAC logical channel priority	1
- Downlink RLC logical channel info	
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
- 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	1
- CHOICE RLC size list	Explicit List
- RLC size index	According to TS34.108 clause 6.10.2.4.1.3 (standalone 13.6 kbps signalling radio bearer)
- MAC logical channel priority	1
- 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	1
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	4
- Transmission window size	32
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- 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	32
- 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

Information Element	Value/remark
- 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	2
- CHOICE RLC size list	Configure
- MAC logical channel priority	2
- 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	2
- 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	2
- CHOICE RLC size list	Explicit List
- RLC size index	According to TS34.108 clause 6.10.2.4.1.3 (standalone 13.6 kbps signalling radio bearer)
- MAC logical channel priority	2
- 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	2
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	4
- Transmission window size	32
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- 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	32
- 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

Information Element	Value/remark
- 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 (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
Signalling RB information to setup	(AM DCCH for NAS_DT Low 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	4
- Transmission window size	32
- Timer_RST	500
- Max_RST	1
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- 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	32
- 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	4
- CHOICE RLC size list	Configured
- MAC logical channel priority	4
- 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	4
- 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	4

Information Element	Value/remark
- CHOICE RLC size list	Explicit List
- RLC size index	According to TS34.108 clause 6.10.2.4.1.3 (standalone 13.6 kbps signalling radio bearer)
- MAC logical channel priority	4
- 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	4

UE CAPABILITY ENQUIRY (Step 2)

Use the same message found in TS 34.108 clause 9.

UE CAPABILITY INFORMATION (Step 3)

Only the message type IE is checked for this message.

CELL UPDATE (Step 5)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
AM_RLC error indicator (RB2, RB3 or RB4)	Check to see if set to 'TRUE'
Cell update cause	Check to see if set to 'RLC unrecoverable error'

RRC CONNECTION RELEASE (Step 6)

Use the same message found in TS 34.108 clause 9.

8.3.1.15.5 Test Requirement

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH to report the occurrence of an unrecoverable error in AM RLC entity for RB2, RB3 or RB4 data as well as cell update cause set to "RLC unrecoverable error".

8.3.1.16 Void

8.3.1.17 Cell Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)

8.3.1.17.1 Definition

8.3.1.17.2 Conformance requirement

When the UTRAN receives a CELL UPDATE/URA UPDATE message, the UTRAN should:

1> ... or

1> initiate an RRC connection release procedure (see subclause 8.1.4 in TS 25.331) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

...

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> ...

3> enter idle mode;

Reference

3GPP TS 25.331 clause 8.3.1.5, 8.1.4.3

8.3.1.17.3 Test purpose

To confirm that the UE moves to idle state upon the reception of a RRC CONNECTION RELEASE message on CCCH.

8.3.1.17.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11)

Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodical cell updating procedure. The SS transmits a RRC CONNECTION RELEASE message on downlink CCCH. The UE shall return to idle mode after release of all current signalling flows and radio access bearers. 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		→	CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause" and this message shall be sent upon expiry of timer T305.
2		←	RRC CONNECTION RELEASE	SS transmits a RRC CONNECTION RELEASE message to the UE. After SS sent this message SS waits for 5 seconds.
3			Void	
4			Void	
5				The UE shall enter idle mode state.
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

CELL UPDATE (Step 1)

The same message found in Clause 9 of TS 34.108 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Periodical cell update'

RRC CONNECTION RELEASE (Step 2)

Use the same message sub-type found in Clause 9 of TS 34.108.

8.3.1.17.5 Test requirement

In step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodical cell update" into IE "Cell update cause".

After step 4 the UE shall enter idle mode.

8.3.1.18 Cell Update: Radio Link Failure (T314>0, T315=0), CS RAB established

8.3.1.18.1 Definition

8.3.1.18.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

- 1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
- 2> if the UE is in CELL_DCH state and the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:
- 3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

- 2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;
- 2> if the stored values of the timer T314 and timer T315 are both equal to zero; or
- 2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

...

2> if the stored value of the timer T314 is equal to zero:

...

2> if the stored value of the timer T315 is equal to zero:

- 3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";
- 3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.
- 2> if the stored value of the timer T314 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":
 - 4> start timer T314.
 - 3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":
 - 4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

...

2> for the released radio bearer(s):

- 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
- 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;

- 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
- 2> select a suitable UTRA cell according to TS 25.304;
- 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> set the variable CELL_UPDATE_STARTED to TRUE;
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to TS 25.331 subclause 8.5.17;
 - 2> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;
 - 2> use the transport format set given in system information as specified in TS 25.331 subclause 8.6.5.1.
- 1> if the UE performs cell re-selection:
 - 2> clear the variable C_RNTI; and
 - 2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.
- 1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;
- 1> in case of a cell update procedure:
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH.
- 1> set counter V302 to 1;
- 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

...

If the received CELL UPDATE CONFIRM message would cause the UE to transit to CELL_DCH state:

- 1> if the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message according to the criteria defined in subclause 8.5.4 in TS 25.331 are not fulfilled; or

...

the UE shall:

...

- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> if V302 is equal to or smaller than N302:
 - 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "Radio link failure";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.7a

8.3.1.18.3 Test purpose

1. To confirm that the UE shall try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE performs a cell selection procedure when it fails to configure the physical channel(s) indicated in the CELL UPDATE CONFIRM message.

8.3.1.18.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and cell 2 are active).

SYSTEM INFORMATION BLOCK TYPE 1 (see specific message contents).

UE: CS_DCCH+DTCH_DCH (state 6-9).

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T315	0

Test Procedure

Table 8.3.1.18

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

Table 8.3.1.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.18. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 2. After that, it shall transmit CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes dedicated transport and physical channel parameters on downlink DCCH. SS shall not configure according to this message. Instead, SS configures its downlink transmission power settings according to column "T0" in table 8.3.1.18. UE shall fail to establish the dedicated channel in cell 2.

UE shall re-select to cell 1 and transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure". Then SS responds with a CELL UPDATE CONFIRM message on downlink DCCH. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

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			Void	
1			Void	
2			Void	
3			Void	
4				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.18. SS starts to listen to the uplink CCCH of cell 2.
5			Void	
6				The UE detects the radio link failure.
7		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
8		←	CELL UPDATE CONFIRM	Including dedicated physical channel parameters.
9				SS does not configure according to the message in step 8. SS configures cell 1 and 2 according to column "T0" in table 8.3.1.18.
10		→	CELL UPDATE	UE shall select cell 1 and transmit this message
11		←	CELL UPDATE CONFIRM	See message content.
12		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

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

CELL UPDATE (Step 7)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

CELL UPDATE CONFIRM (Step 8 and 11)

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

Information Element	Value/remark
RRC State indicator	CELL_DCH
UL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
DL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.

CELL UPDATE (Step 10)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
Failure cause	This IE is not Checked.
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

8.3.1.18.5 Test requirement

After step 6, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

After step 9, the UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure".

After step 11, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

8.3.1.19 Void

8.3.1.20 Cell Update: Reception of CELL UPDATE CONFIRM Message that causes invalid configuration

8.3.1.20.1 Definition

8.3.1.20.2 Conformance Requirement

If the variable INVALID_CONFIGURATION is set to TRUE, the UE shall:

1> if V302 is equal to or smaller than N302:

2> if, caused by the received CELL UPDATE CONFIRM message

3> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:

4> set the variable ORDERED_RECONFIGURATION to FALSE.

2> in case of a cell update procedure:

3> set the variable FAILURE_INDICATOR to TRUE;

3> set the variable FAILURE_CAUSE to "Invalid configuration";

3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the CELL UPDATE message for transmission on the uplink CCCH.

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.20.3 Test Purpose

1. To confirm that the UE retransmits a CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that will trigger an invalid configuration in the UE, if the number of retransmissions has not reached the maximum allowed value.

8.3.1.20.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message which is set to give an invalid configuration. The UE shall re-transmit CELL UPDATE message. SS responds with a valid CELL UPDATE CONFIRM message to end the procedure. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	The UE is in the CELL_PCH state. SS pages for the UE using the allocated connected mode identity (U-RNTI).
2		→	CELL UPDATE	If CELL UPDATE message is received, check that the value "paging response" is set in IE "Cell update cause".
3		←	CELL UPDATE CONFIRM	SS transmits an invalid message.
4		→	CELL UPDATE	IE "failure cause" is set to "invalid configuration"
5		←	CELL UPDATE CONFIRM	
6		→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not Present

CELL UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause Failure cause	Check to see if set to 'Paging Response' Check to see if it is set to 'invalid configuration'

PAGING TYPE 1 (Step 1)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list - Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	UTRAN identity '0000 0000 0001' '0000 0000 0000 0000 0001'

CELL UPDATE CONFIRM (Step 5)

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

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

8.3.1.20.5 Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response".

After step 3 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response" and IE "failure cause" set to "invalid configuration".

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

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 SYSTEM INFORMATION BLOCK TYPE 11	SS transmits MIB and SB1 with a new value Tag. Simultaneously SS transmits modified SIB 3 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 (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.

8.3.1.22 Cell update: Restricted cell reselection to a cell belonging to forbidden LA list (Cell_FACH)

8.3.1.22.1 Definition

8.3.1.22.2 Conformance requirement

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 contain a list of "forbidden location areas for roaming", as well as a list of "forbidden location areas for regional provision of service". These lists shall be erased when the MS is switched off or when the SIM is removed, and periodically (with period in the range 12 to 24 hours). The location area identification received on the BCCH that triggered the location updating request shall be added to the suitable list whenever a location update reject message is received with the cause "Roaming not allowed in this location area" or with the cause "Location Area not allowed". The lists shall accommodate each 10 or more location area identifications. When the list is full and a new entry has to be inserted, the oldest entry shall be deleted.

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.

8.3.1.22.3 Test purpose

1. To confirm that the UE executes a cell update procedure after a successful reselection of another UTRA cell with a LA identity that is not part of the list of LAs stored in the UE as "forbidden location areas for roaming".
2. To confirm that if the UE get a release message and is moved to idle mode, performs a registration update where the LA list is updated and the UE again enters connected mode, that the UE refrains from selecting that same UTRA cell if that is part of the forbidden LA list.

NOTE: Test case in 8.3.1.1 is a test where the UE reselects to a cell with the same LA identity as the LA identity in the original cell.

NOTE: Test case in 8.1.3.2 is a test where normal RRC connection release on DCCH in CELL_FACH state is tested.

NOTE: Test case in 8.1.9 is a test where normal RRC connection request and location registration is tested.

8.3.1.22.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, with the downlink transmission power shown in column marked "T0" in table 8.3.1.22, while cell 2 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 an empty list of LAs stored that are "forbidden location areas for roaming".

Related ICS/IXIT statements

Support of PS service

Yes/No

Test Procedure

Table 8.3.1.22

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
LA identity		LA-ID 1		LA-ID 2	
CPICH Ec (FDD)	dBm	-60	-66	Cell 2 is switched off	-60
P-CCPCH RSCP (TDD)	dBm	-62	-68	Cell 2 is switched off	-68

Table 8.3.1.22-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1" is to be applied subsequently.

- a) At T1, verify that the UE reselects to cell 2 and sends a cell update.
- b) SS sends a RRC connection release message to the UE from cell2 on CCCH.
- c) The UE performs a routing area update to cell 2 (RRC Connection request, setup, initial direct transfer, DL direct transfer (with LA forbidden for roaming), RRC connection release.)
- d) The UE reselects cell 1 again although this is not the best cell.
- e) The UE performs a routing area update to cell 1 (RRC Connection request, setup, initial direct transfer, DL direct transfer (without LA forbidden for roaming)).
- f) Keep the UE in RRC Connected mode in CELL_FACH state.
- g) Make sure the UE refrains from reselecting cell2 and sends a cell update (or any other message) in cell2.

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		→	CELL UPDATE	At T1: Sent in Cell 2 The value "cell reselection" set in IE "Cell update cause".
2		←	RRC CONNECTION RELEASE	This message is sent on CCCH. The value "Normal event" is set in IE "Release cause"
3			Void	
4		→	RRC CONNECTION REQUEST	The value "Registration" is set in IE "Establishment cause"
5		←	RRC CONNECTION SETUP	Transits the UE to CELL_FACH state.
6		→	RRC CONNECTION SETUP COMPLETE	
7		→	INITIAL DIRECT TRANSFER	Includes GMM message ROUTING AREA UPDATE REQUEST.
8		←	DOWNLINK DIRECT TRANSFER	Includes GMM message ROUTING AREA UPDATE REJECT with reject cause "No Suitable Cells In Location Area"
9		←	RRC CONNECTION RELEASE	This message is sent on DCCH. The value "Normal event" is set in IE "Release cause"
10		→	RRC CONNECTION RELEASE COMPLETE	
11		→	RRC CONNECTION REQUEST	Sent in Cell 1. The value "Registration" is set in IE "Establishment cause"
12		←	RRC CONNECTION SETUP	Transits the UE to CELL_FACH state.
13		→	RRC CONNECTION SETUP COMPLETE	
14		→	INITIAL DIRECT TRANSFER	Includes GMM message ROUTING AREA UPDATE REQUEST.
14a		←	SECURITY MODE COMMAND	
14b		→	SECURITY MODE COMPLETE	

15	←	DOWNLINK DIRECT TRANSFER	Includes GMM message ROUTING AREA UPDATE ACCEPT.
----	---	--------------------------	--

Specific Message Contents

CELL UPDATE (Step 1)

The same message found in TS34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'cell reselection'

RRC CONNECTION RELEASE (Step 2, 9)

Use the same message sub-type found in TS34.108 clause 9.

RRC CONNECTION RELEASE COMPLETE (Step 10)

Use the same message sub-type found in TS34.108 clause 9. Only the message type IE in this message will be checked.

RRC CONNECTION REQUEST (Step 4, 11)

Use the same message sub-type found in TS34.108 clause 9.

RRC CONNECTION SETUP (Step 5, 12)

Use the same message sub-type found in TS34.108 clause 9.

RRC CONNECTION SETUP COMPLETE (Step 6, 13)

Use the same message sub-type found in TS34.108 clause 9.

INITIAL DIRECT TRANSFER (Step 7, 14)

Use the same message sub-type found in TS34.108 clause 9.

DOWNLINK DIRECT TRANSFER (Step 8, 15)

Use the same message sub-type found in TS34.108 clause 9.

8.3.1.22.5 Test requirement

In step 1, the UE shall send a CELL UPDATE in Cell 2 at T1 and attempt registration update in Cell 2.

After step 2, the UE shall transmit RRC CONNECTION REQUEST message.

After step 5, the UE shall transmit RRC CONNECTION SETUP COMPLETE message, followed by an INITIAL DIRECT TRANSFER message

Since the registration update is rejected in Cell 2, UE shall transmit RRC CONNECTION RELEASE COMPLETE message after receiving RRC CONNECTION RELEASE message from SS. UE shall not send any more messages in Cell 2.

After step 9, the UE shall transmit RRC CONNECTION REQUEST message in cell 1.

After step 12, the UE shall transmit RRC CONNECTION SETUP COMPLETE message followed by INITIAL DIRECT TRANSFER message.

8.3.1.23 Cell Update: HCS cell reselection in CELL_FACH

8.3.1.23.1 Definition

8.3.1.23.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is defined by:

$$H_s = Q_{meas,s} - Q_{hcs_s}$$

$$H_n = Q_{meas,n} - Q_{hcs_n} - TO_n * L_n$$

...

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{meas,s} + Q_{hyst_s}$$

$$R_n = Q_{meas,n} - Q_{offset_{s,n}} - TO_n * (1 - L_n)$$

where:

$$TO_n = TEMP_OFFSET_n * W(PENALTY_TIME_n - T_n)$$

$$L_n = 0 \quad \text{if } HCS_PRIO_n = HCS_PRIO_s$$

$$L_n = 1 \quad \text{if } HCS_PRIO_n <> HCS_PRIO_s$$

$$W(x) = 0 \quad \text{for } x < 0$$

$$W(x) = 1 \quad \text{for } x \geq 0$$

TEMP_OFFSET_n applies an offset to the H and R criteria for the duration of PENALTY_TIME_n after a timer T_n has started for that neighbouring cell.

The timer T_n is implemented for each neighbouring cell. T_n shall be started from zero when one of the following conditions becomes true:

- if HCS_PRIO_n <> HCS_PRIO_s and

$$Q_{meas,n} > Q_{hcs_n}$$

Or

- if HCS_PRIO_n = HCS_PRIO_s and

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH RSCP in the serving cell, and:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset_{s,n}}$$

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH Ec/No in the serving cell, and:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}2_{s,n}}$$

- for all other serving and neighbour cells:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}1_{s,n}}$$

T_n for the associated neighbour cell shall be stopped as soon as any of the above conditions are no longer fulfilled. Any value calculated for TO_n is valid only if the associated timer T_n is still running else TO_n shall be set to zero.

At cell-reselection, a timer T_n is stopped only if the corresponding cell is not a neighbour cell of the new serving cell, or if the criteria given above for starting timer T_n for the corresponding cell is no longer fulfilled with the parameters of the new serving cell. On cell re-selection, timer T_n shall be continued to be run for the corresponding cells but the criteria given above shall be evaluated with parameters broadcast in the new serving cell if the corresponding cells are neighbours of the new serving cell.

...

- The cell selection criterion S used for cell reselection is fulfilled when:

for FDD cells:	$S_{\text{rxlev}} > 0$ AND $S_{\text{qual}} > 0$
for TDD cells:	$S_{\text{rxlev}} > 0$
for GSM cells:	$S_{\text{rxlev}} > 0$

Where :

$S_{\text{qual}} = Q_{\text{qualmeas}} - Q_{\text{qualmin}}$
$S_{\text{rxlev}} = Q_{\text{rxlevmeas}} - Q_{\text{rxlevmin}} - P_{\text{compensation}}$

...

- 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 $H \geq 0$. Note that this rule is not valid when UE high-mobility is detected.
 - all cells, not considering HCS priority levels, if no cell fulfil the criterion $H \geq 0$. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

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 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.

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

- the new cell is better ranked than the serving cell during a time interval $T_{\text{reselection}}$.
- more than 1 second has elapsed since the UE camped on the current serving cell.

...

- The *cell reselection* process in Connected Mode is the same as *cell reselection evaluation process* used for idle mode, described in subclause 5.2.6 of 25.304.

- A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

...

1> Re-entering service area:

...

1> RLC unrecoverable error:

...

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

Reference

3GPP TS 25.304 clause 5.2.6.1.4

3GPP TS 25.304 clause 5.4.3

3GPP TS 25.331 clause 8.3.1

8.3.1.23.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters in CELL_FACH state.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell in CELL_FACH state.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.23.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To in Table 8.3.1.23-1. Cell 2 and 3 are switched off.

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

Specific Message Content

For system information blocks 4 and 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.

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell selection and re-selection info - CHOICE mode	FDD

- S _{intersearch}	0 dB
- S _{searchHCS}	35 dB
- RAT List	This parameter is configurable
- S _{limit,SearchRAT}	Not Present
- Q _{qualmin}	-20 dB
- Q _{rxlevmin}	-115 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- Q _{hyst2s}	0 dB
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	TDD
- S _{searchHCS}	47 dB
- RAT List	This parameter is configurable
- Q _{rxlevmin}	-103 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- 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.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	

- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE

- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present

- Cell Selection and Re-selection info	-20dB
- Qoffset _{s,n}	30 dBm
- Maximum allowed UL TX power	Present
- HCS neighbouring cell information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.23-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
Cell id in system information		1			2			3		
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm /3.84 MHz	-60	-60	-60	-80	-80	-70	-80	-70	-70
P-CCPCH RSCP (TDD)	dBm	-60	-60	-60	-80	-80	-70	-80	-70	-70
H* (During penalty time)		15	15	5	-inf	-inf	5	-inf	-inf	5
H* (After PenaltyTime)		15	15	15	-5	-5	5	-5	5	5
R* (During PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50	n.a.	n.a.	-60
R* (After PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50	n.a.	n.a.	-60

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "T0" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.23-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt

of the new UE identities. UE shall stay in CELL_FACH state. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.23-1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection to cell 2 after the power levels have been changed. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. UE shall stay in CELL_FACH 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_FACH state in cell 1
2		←	BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.23-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_FACH State
3				SS changes the power levels as per column 'T1' in the table 8.3.1.23-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4		→	CELL UPDATE	Value "cell reselection" shall be indicated in IE "Cell update cause" Received in Cell 3
5		←	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
6		→	UTRAN MOBILITY INFORMATION CONFIRM	

7			SS changes the power levels as per column 'T2' in the table 8.3.1.23-1. UE shall find Cell 2 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
8	→	CELL UPDATE	Received in Cell 2
9	←	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
10	→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

The contents of system information block 4 and 11 messages are identical as system information block 4 and 11 messages as found in 34.108 clause 6.1 with the following exceptions:

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	FDD
- S _{intersearch}	0 dB
- S _{searchHCS}	35 dB
- RAT List	This parameter is configurable
- S _{limit,SearchRAT}	Not Present
- Q _{qualmin}	-20 dB
- Q _{rxlevmin}	-115 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- Q _{hyst2s}	0 dB
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	TDD
- S _{intersearch}	0 dB
- S _{searchHCS}	47 dB
- RAT List	This parameter is configurable
- Q _{rxlevmin}	-103 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- 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.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset _{1,s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	

- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present

- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	

- Intra-frequency cell id	3
- 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.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset _{1,s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1,s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
- Penalty Time	40

- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
- Q_HCS	40 (results in actual value of -75)
- HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present

- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 9)

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

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

8.3.1.23.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

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

After step 7 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 9 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

8.3.1.24 Cell Update: HCS cell reselection in CELL_PCH

8.3.1.24.1 Definition

8.3.1.24.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is defined by:

$$H_s = Q_{\text{meas},s} - Q_{\text{hcs}_s}$$

$$H_n = Q_{\text{meas},n} - Q_{\text{hcs}_n} - TO_n * L_n$$

...

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{\text{meas},s} + Q_{\text{hyst}_s}$$

$$R_n = Q_{\text{meas},n} - Q_{\text{offset}_{s,n}} - TO_n * (1 - L_n)$$

where:

$$TO_n = \text{TEMP_OFFSET}_n * W(\text{PENALTY_TIME}_n - T_n)$$

$$L_n = 0 \quad \text{if } \text{HCS_PRIO}_n = \text{HCS_PRIO}_s$$

$$L_n = 1 \quad \text{if } \text{HCS_PRIO}_n < \text{HCS_PRIO}_s$$

$$W(x) = 0 \quad \text{for } x < 0$$

$$W(x) = 1 \quad \text{for } x \geq 0$$

TEMP_OFFSET_n applies an offset to the H and R criteria for the duration of PENALTY_TIME_n after a timer T_n has started for that neighbouring cell.

The timer T_n is implemented for each neighbouring cell. T_n shall be started from zero when one of the following conditions becomes true:

- if $\text{HCS_PRIO}_n < \text{HCS_PRIO}_s$ and

$$Q_{\text{meas},n} > Q_{\text{hcs}_n}$$

Or

- if $\text{HCS_PRIO}_n = \text{HCS_PRIO}_s$ and

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH RSCP in the serving cell, and:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}1_{s,n}}$$

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH Ec/No in the serving cell, and:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}2_{s,n}}$$

- for all other serving and neighbour cells:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}1_{s,n}}$$

T_n for the associated neighbour cell shall be stopped as soon as any of the above conditions are no longer fulfilled. Any value calculated for TO_n is valid only if the associated timer T_n is still running else TO_n shall be set to zero.

At cell-reselection, a timer T_n is stopped only if the corresponding cell is not a neighbour cell of the new serving cell, or if the criteria given above for starting timer T_n for the corresponding cell is no longer fulfilled with the parameters of the new serving cell. On cell re-selection, timer T_n shall be continued to be run for the corresponding cells but the criteria given above shall be evaluated with parameters broadcast in the new serving cell if the corresponding cells are neighbours of the new serving cell.

...

3. The cell selection criterion S used for cell reselection is fulfilled when:

for FDD cells:	$Srxlev > 0$ AND $Squal > 0$
for TDD cells:	$Srxlev > 0$
for GSM cells:	$Srxlev > 0$

Where :

$Squal = Q_{qualmeas} - Q_{qualmin}$
$Srxlev = Q_{rxlevmeas} - Q_{rxlevmin} - P_{compensation}$

...

4. 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 $H \geq 0$. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion $H \geq 0$. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

The cells shall be ranked according to the R criteria.

The best ranked cell is the cell with the highest R value.

5. 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.

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

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

...

6. The *cell reselection* process in Connected Mode is the same as *cell reselection evaluation process* used for idle mode, described in subclause 5.2.6 of 25.304.

7. A UE shall initiate the cell update procedure in the following cases:

- 1> Uplink data transmission:

...

- 1> Paging response:

- ...
- 1> Radio link failure:
 - ...
- 1> Re-entering service area:
 - ...
- 1> RLC unrecoverable error:
 - ...
- 1> Cell reselection:
 - 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
 - 3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or
 - 3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:
 - 4> perform cell update using the cause "cell reselection".

Reference

- 3GPP TS 25.304 clause 5.2.6.1.4
- 3GPP TS 25.304 clause 5.4.3
- 3GPP TS 25.331 clause 8.3.1

8.3.1.24.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters in CELL_PCH state.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell in CELL_PCH state.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.24.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To in table 8.3.1.24-1. Cell 2 and 3 are switched off.

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Specific Message Content

For system information blocks 4 and 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.

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	FDD
- S _{intersearch}	0 dB
- S _{searchHCS}	35 dB
- RAT List	This parameter is configurable
- S _{limit,SearchRAT}	Not Present

- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	5 (gives actual value of 10 dB)
- Qhyst2s	0 dB
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	TDD
- S _{searchHCS}	47 dB
- RAT List	This parameter is configurable
- Qrxlevmin	-103 dBm
- Qhyst1s	5 (gives actual value of 1 dB)
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- 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.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	

- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE

- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present

- Cell Selection and Re-selection info	-20dB
- Qoffset _{s,n}	30 dBm
- Maximum allowed UL TX power	Present
- HCS neighbouring cell information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.24-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
Cell id in system information		1			2			3		
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-60	-60	-80	-80	-70	-80	-70	-70
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (During penalty time)		15	15	5	-inf	-inf	5	-inf	-inf	5
H* (After PenaltyTime)		15	15	15	-5	-5	5	-5	5	5
R* (During PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-inf	n.a.	n.a.	-60
R* (After PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50	n.a.	n.a.	-60

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_PCH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "TO" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.24-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 and set IE "Cell update cause" to "Cell Reselection". After SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", to the UE on the downlink CCCH. UE shall return to CELL_PCH state in Cell 3 and will not transmit anything on PRACH. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.24-1. The UE shall find cell 2 to be more suitable for service after the expiry of penalty time and hence perform a cell reselection

to cell 2 after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", to the UE on the downlink DCCH. UE shall return to CELL_PCH state in Cell 2 and will not transmit anything on PRACH.

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_PCH state in cell 1
2		←	BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.24-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_PCH State
3				SS changes the power levels as per column 'T1' in the table 8.3.1.24-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4		→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 3
5		←	CELL UPDATE CONFIRM	Message sent on CCCH with IE "RRC State Indicator" is set to "CELL_PCH".

7			SS changes the power levels as per column 'T2' in the table 8.3.1.24-1. SS Checks that no cell update message is received during penalty time as the UE shall find Cell 2 better for service and perform a reselection after the expiry of penalty time. SS waits for the maximum duration required for the UE to camp to cell 2.
8	→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 2
9	←	CELL UPDATE CONFIRM	Message sent on DCCH with IE "RRC State Indicator" is set to "CELL_PCH".

Specific Message Contents

The contents of system information block 4 and 11 messages are identical as system information block 4 and 11 messages as found in 34.108 clause 6.1 with the following exceptions:

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	FDD
- S _{intersearch}	0 dB
- S _{searchHCS}	35 dB
- RAT List	This parameter is configurable
- S _{limit,SearchRAT}	Not Present
- Q _{qualmin}	-20 dB
- Q _{rxlevmin}	-115 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- Q _{hyst2s}	0 dB
- HCS Serving cell information	
-HCS Priority	7
- Q _{HCS}	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	

- CHOICE mode	TDD
- Sintersearch	0 dB
- S _{searchHCS}	47 dB
- RAT List	This parameter is configurable
- Q _{rxlevmin}	-103 dBm
- Q _{hyst1s}	5 (gives actual value of 10 dB)
- HCS Serving cell information	
-HCS Priority	7
- Q _{HCS}	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- 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.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Q _{offset1s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	
- HCS_Priority	6
-Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf

- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present

- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell	Present
information	
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection	
Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE

- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- 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.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
- HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB

- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)

-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1,s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 8)

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

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.3.1.24.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".
 After step 6 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

8.3.1.25 CELL UPDATE: Radio Link Failure (T314=0, T315=0)

8.3.1.25.1 Definition

8.3.1.25.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_DCH state and the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6; or

...

4> perform cell update using the cause "radio link failure".

When initiating cell update procedure, the UE shall:

...

1> if the UE is in CELL_DCH state:

...

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

...

3> release all its radio resources;

3> indicate release (abort) 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;

3> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

3> clear the variable ESTABLISHED_RABS;

3> enter idle mode;

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

3> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.2

8.3.1.25.3 Test purpose

1. To confirm that the UE releases all resources and enters idle mode when there is a radio link failure.

8.3.1.25.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and Cell 2 are active).

UE: PS-DCCH+DTCH_DCH (state 6-10) or CS-DCCH+DTCH_DCH (state 6-9) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE. PS+CS-DCCH+DTCH_DCH (state 6-14) in cell 1, if UE supports both CS and PS domains.

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	0
- T315	0

Test Procedure

Table 8.3.1.25

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

Table 8.3.1.25 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked ‘T0’ denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.25. The UE shall detect a radio link failure in cell 1 and indicate to the non-access stratum the release of all the radio bearers. Then it shall attempt to re-select to cell 2. After that, it shall then enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				In the initial set up procedure, the SS shall request UE to set timer T314 and T315 to 0.
2				SS configures cell 1 and 2 according to column 'T1' in table 8.3.1.25.
3				SS waits for 5 seconds.
4		↔	CALL C.1	SS execute this procedure in cell 2. 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.

8.3.1.25.5 Test requirement

After step 2, the UE shall release all its radio bearers.
 After step 3, the UE shall be in idle mode state in cell 2.

8.3.1.26 Cell Update: Radio Link Failure (T314>0, T315=0), PS RAB established

8.3.1.26.1 Definition

8.3.1.26.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

- 1> stop timer T305;
 - 1> if the UE is in CELL_DCH state:
 - 2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;
 - 2> if the stored values of the timer T314 and timer T315 are both equal to zero; or
 - 2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - ...
 - 2> if the stored value of the timer T314 is equal to zero:
 - ...
 - 2> if the stored value of the timer T315 is equal to zero:
 - 3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";
 - 3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.
 - 2> if the stored value of the timer T314 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":
 - 4> start timer T314.
 - 3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":
 - 4> start timer T314.
 - 2> if the stored value of the timer T315 is greater than zero:
 - ...
 - 2> for the released radio bearer(s):
 - 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
 - 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;
 - 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
 - 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> set the variable CELL_UPDATE_STARTED to TRUE;
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to s TS 25.331 ubclause 8.5.17;

- 2> select Secondary CCPCH according to s TS 25.331 ubclause 8.5.19;
- 2> use the transport format set given in system information as specified in TS 25.331 subclause 8.6.5.1.
- 1> if the UE performs cell re-selection:
 - 2> clear the variable C_RNTI; and
 - 2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.
- 1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;
- 1> in case of a cell update procedure:
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH.
- 1> set counter V302 to 1;
- 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

...

If the received CELL UPDATE CONFIRM message would cause the UE to transit to CELL_DCH state; and

- 1> in case of a received CELL UPDATE CONFIRM message:
 - 2> if the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message

...

the UE shall:

- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> if V302 is equal to or smaller than N302:
 - 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "Radio link failure";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.26.3 Test purpose

1. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell after detecting that a radio link failure has occurred.

8.3.1.26.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and cell 2 are active).

UE: PS_DCCH+DTCH_DCH (state 6-10) in cell 1 or PS+CS-DCCH+DTCH_DCH (state 6-14) in cell 1, if UE supports both CS and PS domains.

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T315	0

Test Procedure

Table 8.3.1.26

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

Table 8.3.1.26 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.26. The UE shall detect a radio link failure in cell 1. UE shall release of the radio bearer which is associated with T315, if the latter has been set up in the initial condition.

Then it shall attempt to re-select to cell 2. After that, it shall then enter CELL_FACH state and transmit CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes dedicated physical channel parameters on downlink DCCH. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

SS transmits COUNTER CHECK message to UE. UE shall transmit a COUNTER CHECK RESPONSE message back to SS.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.26. SS starts to listen to the uplink CCCH of cell 2.
2				The UE detects the radio link failure.
3		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	Including dedicated physical channel parameters.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
6		←	COUNTER CHECK	SS sent the COUNT-C info for the RBs that were established in the initial condition.
7		→	COUNTER CHECK RESPONSE	

Specific Message Contents

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	Check to see if set to value assigned in cell 1.
-SRNC Identity	
- S-RNTI	
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in TS 34.108 clause 9, with the following exceptions:
If the initial condition of the UE is in state 6-10, then

Information Element	Value/remark
RRC State indicator	CELL_DCH

CHOICE channel requirement	Same as the set defined in RRC CONNECTION SETUP message: UM (Transition to CELL_DCH) found in TS 34.108 clause 9.
Downlink information common for all radio links	Same as the set defined in RRC CONNECTION SETUP message: UM (Transition to CELL_DCH) found in TS 34.108 clause 9.
Downlink information per radio link list	Same as the set defined in RRC CONNECTION SETUP message: UM (Transition to CELL_DCH) found in TS 34.108 clause 9.

If the initial condition of the UE is in state 6-14, then

Information Element	Value/remark
RRC State indicator	CELL_DCH
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.

COUNTER CHECK (Step 6)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Set to the RB identity that was release by the UE upon radio link failure
- COUNT-C MSB uplink	Arbitrary COUNT-C MSB
- COUNT-C MSB downlink	Arbitrary COUNT-C MSB

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 the RB identity that was release by the UE upon radio link failure
- COUNT-C uplink	Check to see if COUNT-C MSB is set to arbitrary value given in step 13 and LSB is fill with '0'

- COUNT-C downlink	Check to see if COUNT-C MSB is set to arbitrary value given in step 13 and LSB is fill with '0'
--------------------	---

8.3.1.26.5 Test requirement

After step 2, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

After step 4, 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 COUNTER CHECK RESPONSE message with the MSB part of the COUNT-C values set identical to COUNT-C MSB values in the COUNTER CHECK message in step 6.

8.3.1.27 Cell Update: Radio Link Failure (T314=0, T315>0), CS RAB

8.3.1.27.1 Definition

8.3.1.27.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

...

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

3> release all its radio resources;

- 3> indicate release (abort) 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;
- 3> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- 3> clear the variable ESTABLISHED_RABS;
- 3> enter idle mode;
- 3> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2;
- 3> and the procedure ends.
- 2> for the released radio bearer(s):
 - 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
 - 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;
 - 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
- 2> select a suitable UTRA cell according to TS 25.304;
- 2> set the variable ORDERED_RECONFIGURATION to FALSE.

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.27.3 Test purpose

1. To confirm that the UE release radio access bearer which is associated with T314 and try to find a new cell after detecting that a radio link failure has occurred.

8.3.1.27.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and Cell 2 are active).
 UE: CS_DCCH+DTCH_DCH (state 6-9).

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	0

Test Procedure

Table 8.3.1.27

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

Table 8.3.1.27 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked ‘T0’ denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.27. The UE shall detect a radio link failure in cell 1. The UE shall release radio bearer associated with T314 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 and 2 according to column ‘T1’ in table 8.3.1.27. SS starts to listen to the uplink CCCH of cell 2.
2				The UE detects the radio link failure.
3		↔	CALL C.1	SS execute this procedure in cell 2. 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.

8.3.1.27.5 Test requirement

After step 2, the UE shall detect the presence of cell 2 and enter idle mode state in cell 2.

8.3.1.28 Cell Update: Radio Link Failure (T314=0, T315>0), PS RAB

8.3.1.28.1 Definition

8.3.1.28.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

...

2> if the stored value of the timer T314 is equal to zero:

3> release all radio bearers, associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";

3> in the variable RB_TIMER_INDICATOR set the IE "T314 expired" to TRUE.

...

2> if the stored value of the timer T315 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

4> start timer T315.

2> for the released radio bearer(s):

3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;

3> when all radio bearers belonging to the same radio access bearer have been released:

4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;

4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.

2> select a suitable UTRA cell according to TS 25.304;

2> set the variable ORDERED_RECONFIGURATION to FALSE.

...

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.28.3 Test purpose

1. To confirm that the UE release radio access bearer which is associated with T314 and try to find a new cell after detecting that a radio link failure has occurred.

8.3.1.28.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and Cell 2 are active).

UE: PS_DCCH+DTCH_DCH (state 6-10) in cell 1 or PS+CS-DCCH+DTCH_DCH (state 6-14) in cell 1, if UE supports both CS and PS domains.

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	0

Test Procedure

Table 8.3.1.28

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

Table 8.3.1.28 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked ‘T0’ denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.28. The UE shall detect a radio link failure in cell 1. The UE shall attempt to re-select to cell 2. After that, it shall then enter CELL_FACH state and transmit CELL_UPDATE on the uplink CCCH to SS. The SS transmits CELL_UPDATE CONFIRM message which includes dedicated physical channel parameters on downlink DCCH. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS transmits COUNTER CHECK message to UE. UE shall transmit a COUNTER CHECK RESPONSE message back to SS.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 and 2 according to column 'T1' in table 8.3.1.28. SS starts to listen to the uplink CCCH of cell 2.
2				The UE detects the radio link failure.
3		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	See message content.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
6		←	COUNTER CHECK	SS sent the COUNT-C info for the RBs that were established in the initial condition.
7		→	COUNTER CHECK RESPONSE	

Specific Message Contents

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	Check to see if set to value assigned in cell 1.
- S-RNTI	
- SRNC Identity	
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	TRUE FALSE
- T314 expired	
- T315 expired	

CELL UPDATE CONFIRM (Step 4)

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

Information Element	Value/remark
---------------------	--------------

RRC State indicator	CELL_DCH
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.

COUNTER CHECK (Step 7)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Set to the RB identity that was set up in the initial condition
- COUNT-C MSB uplink	Set to the value stored in the SS
- COUNT-C MSB downlink	Set to the value stored in the SS

COUNTER CHECK RESPONSE (Step 8)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	Not present

8.3.1.28.5 Test requirement

After step 2, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

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

After step 7, the UE shall transmit a COUNTER CHECK RESPONSE message without including IE "RB COUNT-C information".

8.3.1.29 Cell Update: Radio Link Failure (T314>0, T315>0), CS RAB

8.3.1.29.1 Definition

8.3.1.29.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE is in CELL_DCH state; and
- 2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:
 - 3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

...

1> if the UE is in CELL_DCH state:

- 2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

...

2> if the stored value of the timer T314 is greater than zero:

- 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":
 - 4> start timer T314.
- 3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":
 - 4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

- 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - 4> start timer T315.

...

Upon expiry of timer T314 the UE shall:

1> if timer T302 is running:

...

1> if timer T302 is not running and timer T315 is running:

- 2> set IE "T314 expired" in variable RB_TIMER_INDICATOR to TRUE;
- 2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";
- 2> indicate release of those radio access bearers to upper layers;
- 2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.

1> if timers T302 and T315 are not running:

- 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- 2> clear the variable PDCP_SN_INFO;

- 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- 2> release all its radio resources;
- 2> indicate release (abort) 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;
- 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- 2> clear the variable ESTABLISHED_RABS;
- 2> set the variable CELL_UPDATE_STARTED to FALSE;
- 2> enter idle mode;
- 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
- 2> and the procedure ends.

Upon expiry of timer T315 the UE shall:

- 1> if timer T302 is running:

...

- 1> if timer T302 is not running and timer T314 is running:

- 2> set IE "T315 expired" in variable RB_TIMER_INDICATOR to TRUE;
- 2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "use T315";
- 2> indicate release of those radio access bearers to upper layers;
- 2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.

- 1> if timers T302 and T314 are not running:

- 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- 2> clear the variable PDCP_SN_INFO;
- 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- 2> release all its radio resources;
- 2> indicate release (abort) 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;
- 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- 2> clear the variable ESTABLISHED_RABS;
- 2> set the variable CELL_UPDATE_STARTED to FALSE;
- 2> enter idle mode;
- 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
- 2> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.29.3 Test purpose

1. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T314 and try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE enters idle mode after T314 expires and T302 and T315 are not running.

8.3.1.29.4 Method of test

Initial Condition

System Simulator: 1 cell (Cell 1 is active).

UE: CS_DCCH+DTCH_DCH (state 6-9).

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	12
- T315	30

Test Procedure

Table 8.3.1.29

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

The UE is brought to CELL_DCH state after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.29. The UE shall detect a radio link failure in cell 1.

The SS shall wait for 12s (see Note 1) and then configure its downlink transmission power settings according to column ‘T0’ in table 8.3.1.29. The UE shall release radio bearer associated with T314 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 1.

NOTE 1: Considering the timer tolerance of the UE, T314 may expire between 12s±0.3s, therefore the SS must wait for at least 12.3s before it reconfigures its downlink transmission power. Since SS has a timer tolerance of 10% or 2*TTI+55ms (consider the greater value of the two), the test case shall set the SS to reconfigure the power level 13.67s after the SS configures the power settings according to column ‘T1’ in table 8.3.1.29.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 according to column 'T1' in table 8.3.1.29.
2				SS waits for 12s after the completion of step 1 and then configures cell 1 according to column 'T0' in table 8.3.1.29.
3		↔	CALL C.1	SS execute this procedure in cell 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.

8.3.1.29.5 Test requirement

After step 2, the UE shall detect the presence of cell 1 and enter idle mode state in cell 1.

8.3.1.30 Cell Update: Radio Link Failure (T314>0, T315>0), PS RAB

8.3.1.30.1 Definition

8.3.1.30.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

...

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

...

2> if the stored value of the timer T314 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":

4> start timer T314.

3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":

4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

4> start timer T315.

...

Upon expiry of timer T314 the UE shall:

1> if timer T302 is running:

...

1> if timer T302 is not running and timer T315 is running:

2> set IE "T314 expired" in variable RB_TIMER_INDICATOR to TRUE;

2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";

2> indicate release of those radio access bearers to upper layers;

2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.

1> if timers T302 and T315 are not running:

2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> clear the variable PDCP_SN_INFO;

2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;

2> release all its radio resources;

2> indicate release (abort) 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;

2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

2> clear the variable ESTABLISHED_RABS;

2> set the variable CELL_UPDATE_STARTED to FALSE;

2> enter idle mode;

2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;

2> and the procedure ends.

Upon expiry of timer T315 the UE shall:

1> if timer T302 is running:

...

1> if timer T302 is not running and timer T314 is running:

2> set IE "T315 expired" in variable RB_TIMER_INDICATOR to TRUE;

2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "use T315";

2> indicate release of those radio access bearers to upper layers;

2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.

1> if timers T302 and T314 are not running:

2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> clear the variable PDCP_SN_INFO;

2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;

2> release all its radio resources;

2> indicate release (abort) 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;

2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

2> clear the variable ESTABLISHED_RABS;

2> set the variable CELL_UPDATE_STARTED to FALSE;

2> enter idle mode;

2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;

2> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.30.3 Test purpose

1. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T314 and try to find a new cell after detecting that a radio link failure has occurred. (This test purpose is only applicable when CS RAB is set up in the initial condition.)
3. To confirm that the UE enters idle mode after T315 expires and T302 and T314 are not running.

8.3.1.30.4 Method of test

Initial Condition

System Simulator: 1 cell (Cell 1 is active).

UE: PS_DCCH+DTCH_DCH (state 6-10 or PS+CS-DCCH+DTCH_DCH (state 6-14), if UE supports both CS and PS domains.

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	12
- T315	30

Test Procedure

Table 8.3.1.30

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

The UE is brought to CELL_DCH state after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.30. The UE shall detect a radio link failure in cell 1.

Case A (the initial condition of the UE is in state 6-10):

The SS shall wait for 34.17s (see Note 2) and then configure its downlink transmission power settings according to column ‘T0’ in table 8.3.1.30. The UE shall release radio bearer associated with T315 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 1.

Case B (the initial condition of the UE is in state 6-14):

The SS shall wait for 13.67s (see Note 1) and then configure its downlink transmission power settings according to column ‘T0’ in table 8.3.1.30. The UE shall release radio bearer associated with T314 and attempt to re-select to cell 1. After that, it shall then enter CELL_FACH state and transmit CELL_UPDATE on the uplink CCCH to SS. The SS transmits CELL_UPDATE CONFIRM message which includes dedicated physical channel parameters on downlink DCCH. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS transmits COUNTER CHECK message to UE. UE shall transmit a COUNTER CHECK RESPONSE message back to SS. Then SS configures its downlink transmission power settings according to column ‘T1’ in table 8.3.1.30. The UE shall detect a radio link failure in cell 1. The SS shall wait for 34.17s (see Note 2) and then configure its downlink transmission power settings according to column ‘T0’ in table 8.3.1.30. The UE shall release radio bearer associated with T315 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 1.

NOTE 1: Considering the timer tolerance of the UE, T314 may expire between $12s \pm 0.3s$, therefore the SS must wait for at least 12.3s before it reconfigures its downlink transmission power. Since SS has a timer tolerance of 10% or $2 * TTI + 55ms$ (consider the greater value of the two), the test case shall set the SS to reconfigure the power level 13.67s after the SS configures the power settings according to column 'T1' in table 8.3.1.30.

NOTE 2: Considering the timer tolerance of the UE, T315 may expire between $30s \pm 0.75s$, therefore the SS must wait for at least 30.75s before it reconfigures its downlink transmission power. Since SS has a timer tolerance of 10% or $2 * TTI + 55ms$ (consider the greater value of the two), the test case shall set the SS to reconfigure the power level 34.17s after the SS configures the power settings according to column 'T1' in table 8.3.1.30.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 according to column 'T1' in table 8.3.1.30.
2				For Case A, go to step 9. SS waits for 13.67s after the completion of step 1 and then configures cell 1 according to column 'T0' in table 8.3.1.30.
3		→	CELL UPDATE	UE shall select cell 1 and enter CELL_FACH state to transmit this message
4		←	CELL UPDATE CONFIRM	See message content.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
6		←	COUNTER CHECK	SS sent the COUNT-C info for the RBs that were established in the initial condition.
7		→	COUNTER CHECK RESPONSE	
8				SS configures cell 1 according to column 'T1' in table 8.3.1.30.
9				SS waits for 34.17s after the completion of step 1 and then configures cell 1 according to column 'T0' in table 8.3.1.30.
10		↔	CALL C.1	SS execute this procedure in cell 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

CELL UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	Check to see if set to value assigned in cell 1.
- S-RNTI	
- SRNC Identity	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	TRUE FALSE
- T314 expired	
- T315 expired	

CELL UPDATE CONFIRM (Step 5)

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

Information Element	Value/remark
RRC State indicator	CELL_DCH
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.

COUNTER CHECK (Step 7)

Information Element	Value/remark
Message Type	0
RRC transaction identifier	
Integrity check info	Calculated value
RB COUNT-C MSB information	Set to the RB identity that was set up in the initial condition and support PS service. Set to the value stored in the SS Set to the value stored in the SS
- RB identity	
- COUNT-C MSB uplink	
- COUNT-C MSB downlink	

COUNTER CHECK RESPONSE (Step 8)

Information Element	Value/remark
Message Type	0
RRC transaction identifier	
Integrity check info	Not checked
RB COUNT-C information	Not present

8.3.1.30.5 Test requirement

Case A:

After step 2, the UE shall detect the presence of cell 1 and enter idle mode state in cell 1.

Case B:

After step 2, the UE shall detect the presence of cell 1, perform cell re-selection and transmit a CELL UPDATE message.

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

After step 7, the UE shall transmit a COUNTER CHECK RESPONSE message without including IE "RB COUNT-C information".

After step 10, the UE shall detect the presence of cell 1 and enter idle mode state in cell 1.

8.3.1.31 Cell Update: re-entering of service area from URA_PCH after T316 expiry but before T317 expiry

8.3.1.31.1 Definition

8.3.1.31.2 Conformance requirement

If the UE detects the "out of service area" and the UE is in URA_PCH or CELL_PCH state it shall perform the following actions:

1> start timer T316;

1> perform processes described in subclause 7.2.2.

....

In the URA_PCH or CELL_PCH state the UE shall perform the following actions:

NOTE: Neither DCCH nor DTCH are available in these states.

1> if the UE is "in service area":

....

1> if the UE is "out of service area":

2> perform cell selection process as specified in [4];

2> run timer T316;

2> run timer T305.

....

On T316 expiry the UE shall perform the following actions. The UE shall:

1> if "out of service area" is detected:

2> start timer T317;

2> move to CELL_FACH state;

2> perform processes described in subclause 7.2.2.

1> if "in service area" is detected:

....

If the UE detects "in service area" before T317 expiry the UE shall perform the following actions. If no cell update procedure or URA update procedure is ongoing, the UE shall:

1> stop T317;

1> if T307 is active:

2> stop T307.

1> initiate the cell update procedure using as cause "Re-entering service area" as specified in subclause 8.3.1;

1> perform processes described in subclause 7.2.2.

If a cell update procedure or URA update procedure is ongoing, the UE shall:

1> stop T317;

1> perform the actions as specified in 8.3.1.

Reference

3GPP TS 25.331 clause 8.3.1, 8.5.5.1.1, 8.5.5.2.2, 8.5.5.3, 7.2.2.1, and 7.2.2.2.

8.3.1.31.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE re-enters the service area before the expiry of timer T317, after expiry of T316.

8.3.1.31.4 Method of test

Initial Condition

System Simulator: 1 cell with URA-ID 1 and the downlink transmission power shown in column marked "T0" in table 8.3.1.31.

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, with URA-ID 1 in the list of URA-ID.

Test Procedure

Table 8.3.1.31

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.1.31 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is initially in URA_PCH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. The SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.31 so that $S < 0$. When the UE detects that it is out of service area, it will start T316 and search for a cell to camp. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.31 within a time equivalent to T316+T317 but larger than T316, so that $S > 0$. The UE shall detect that it returns back in service area before T317 expires. Since the UE has moved to CELL_FACH state on expiry of T316, it shall now transmit a CELL UPDATE message which contains the value "re-entering service area" in IE "Cell update cause" to the SS on the uplink CCCH. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IE "new C-RNTI", and "new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts operating from URA_PCH state.
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	PAGING TYPE 1	Include IE "BCCH modification info"

		void	
		void	
2			SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.31 such that the cell 1 is no longer suitable for camping i.e. $S < 0$.
3			The UE shall detect a "out of service area" condition, start T316. The UE shall start T317 on expiry of T316)
4			60 seconds after step 2 (see note 1), the SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.31 before T317 expires.
5	→	CELL UPDATE	Value "re-entering service area" shall be set in IE "Cell update cause"
6	←	CELL UPDATE CONFIRM	
7	→	UTRAN MOBILITY INFORMATION CONFIRM	

NOTE: The 60 seconds in step 4 should be large enough for any UE to have detected the out of service area condition (Nserv consecutive DRX cycles + 12s) and have started T317 after T316 expiry (default=30s), but well before T317 expiry (default = 180s).

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Value Tag	2 A valid MIB value tag as defined in TS 25.331 that is different from the previous value
Scheduling information	Scheduling info for System Information Type 3
- Cell Value tag	A value that is different from the previous Cell value tag
Scheduling information	Scheduling info for System Information Type 4
- Cell Value tag	A value that is different from the previous Cell value tag

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

PAGING TYPE 1 (Step 1b)

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

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2 A valid MIB value tag as defined in TS 25.331 that is different from the previous value
BCCH modification time	Not present

CELL UPDATE (Step 5)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 're-entering service area'

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type found in TS 34.108 clause 9, with the exception of the following IEs:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0101 0101'
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 7)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE.

8.3.1.31.5 Test requirement

After step 2 the UE shall detect that it is out of service area and shall not send a URA UPDATE on the uplink CCCH channel.

After step 4 the UE shall transmit a CELL UPDATE message which sets value "re-entering service area" into IE "Cell update cause".

After step 6 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message.

8.3.1.32 Cell Update: Transition from URA_PCH to CELL_DCH, start of HS-DSCH reception

8.3.1.32.1 Definition

8.3.1.32.2 Conformance requirement

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.

...

A UE shall initiate the cell update procedure in the following cases:

- 1> Paging response:

...

...

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 of TS 25.331 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 "Added or Reconfigured DL TrCH information" is included then for the transport channel identified by the IE "DL Transport Channel Identity" the UE shall:

- 1> if the choice "DL parameters" is set to 'HSDSCH':
 - 2> if the IE "HARQ Info" is included:
 - 3> perform the actions specified in subclause 8.6.5.6b of TS 25.331.

...

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 Δ_{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 25.331 for the IE "Measurement Feedback Info".

...

If the IE "HS-SCCH Info" is included, the UE shall:

1> store the received configuration.

When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:

1> in the case of FDD:

2> receive the HS-SCCH(s) according to the IE "HS-SCCH channelisation code" on the serving HS-DSCH radio link applying the scrambling code as received in the IE "DL Scrambling code".

...

If the IE "Measurement Feedback Info" is included, the UE shall:

1> store the received configuration.

When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:

1> use the information for the channel quality indication (CQI) procedure in the physical layer on the serving HS-DSCH radio link.

Reference

3GPP TS 25.331 clauses 8.1.2, 8.3.1, 8.6.3.1, 8.6.3.1b, 8.6.5.6, 8.6.6.32, 8.6.6.33, 8.6.6.34

8.3.1.32.3 Test purpose

To confirm that the UE enters the CELL_DCH state after it receives a CELL UPDATE CONFIRM message with a physical channel configuration causing it to start HS-DSCH reception.

8.3.1.32.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS_DCCH_DTCH_HS_DSCH (state 6-17) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state and has a radio bearer established that is mapped to HS-DSCH. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to URA_PCH. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters URA_PCH state. The SS transmits a PAGING TYPE 1 message. The UE enters the CELL_FACH state to transmit a CELL UPDATE message using uplink CCCH in respond to the paging. The SS transmits CELL UPDATE CONFIRM message which includes DPCH and HS-PDSCH physical channel parameters on the downlink DCCH. Then the UE resumes HS-DSCH reception and transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			PHYSICAL CHANNEL RECONFIGURATION	
2			PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters the URA_PCH state
3		←	PAGING TYPE 1	
4		→	CELL UPDATE	The UE enters the CELL_FACH state.
5		←	CELL UPDATE CONFIRM	
6		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters the CELL_DCH state and starts HS-DSCH reception.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

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

Information Element	Value/remark
New C-RNTI	Not Present
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
URA Identity	0000 0000 0000 0001B

CELL UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- S-RNTI	Check to see if set to value assigned in cell 1.
- SRNC Identity	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to "Paging response"

CELL UPDATE CONFIRM (Step 5)

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

Information Element	Value/remark
New H-RNTI	'1010 1010 1010 1010'
RRC State indicator	CELL_DCH
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink HS-PDSCH Information	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.

8.3.1.32.5 Test requirement

After step 1, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 3, the UE shall transmit a CELL UPDATE message.

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

8.3.1.33 Cell Update: Transition from CELL_PCH to CELL_DCH, start of HS-DSCH reception, frequency band modification

8.3.1.33.1 Definition

All UEs which support FDD and HS-PDSCH.

8.3.1.33.2 Conformance requirement

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.

...

A UE shall initiate the cell update procedure in the following cases:

- 1> Paging response:

...

...

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 new state is CELL_PCH, the response message shall be transmitted using the old configuration before the state transition, but the new C-RNTI shall be used if the IE "New C-RNTI" was included in the received reconfiguration message, and the UE shall:

- 1> when RLC has confirmed the successful transmission of the response message:

...

- 2> enter the new state (CELL_PCH);

...

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- 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
- if the message is received on DCCH:

- 2> if the IE "Frequency info" is included in the message:

- 3> if the IE "RRC State Indicator" is set to the value "CELL_DCH":

- 4> act on the IE "Frequency info" as specified in subclause 8.6.6.1 in TS 25.331.

...

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 of TS 25.331 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 "Added or Reconfigured DL TrCH information" is included then for the transport channel identified by the IE "DL Transport Channel Identity" the UE shall:

- 1> if the choice "DL parameters" is set to 'HSDSCH':

- 2> if the IE "HARQ Info" is included:

- 3> perform the actions specified in subclause 8.6.5.6b of TS 25.331.

...

If, after completion of the procedure, the UE will be in CELL_DCH state, the UE shall:

- 1> if the IE "Frequency info" is included:

- 2> if the frequency is different from the currently used frequency:

- 3> store and use the frequency indicated by the IE "Frequency Info"; and

- 3> perform the physical layer synchronisation procedure A as specified in TS 25.214 (FDD only).

...

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 Δ_{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 25.331 for the IE "Measurement Feedback Info".

...

If the IE "HS-SCCH Info" is included, the UE shall:

- 1> store the received configuration.

When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:

- 1> in the case of FDD:
 - 2> receive the HS-SCCH(s) according to the IE "HS-SCCH channelisation code" on the serving HS-DSCH radio link applying the scrambling code as received in the IE "DL Scrambling code".

...

If the IE "Measurement Feedback Info" is included, the UE shall:

- 1> store the received configuration.

When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:

- 1> use the information for the channel quality indication (CQI) procedure in the physical layer on the serving HS-DSCH radio link.

Reference

3GPP TS 25.331 clauses 8.1.2, 8.2.2.3, 8.2.2.4, 8.3.1, 8.6.3.1, 8.6.3.1b, 8.6.5.6, 8.6.6.1, 8.6.6.32, 8.6.6.33, 8.6.6.34

8.3.1.33.3 Test purpose

To confirm that the UE enters the CELL_DCH state after it receives a CELL UPDATE CONFIRM message with a physical channel configuration causing it to start HS-DSCH reception on a different cell and frequency. To confirm that the UE enters CELL_PCH state on another frequency and stops HS-DSCH reception when it receives a PHYSICAL CHANNEL RECONFIGURATION message.

8.3.1.33.4 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

Test Procedure

Table 8.3.1.33

Parameter	Unit	Cell 1			Cell 6		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		f ₁			f ₂		
CPICH Ec	dBm/3.84 MHz	-60	-72	-60	Off	-55	-72

Table 8.3.1.33 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 the CELL_DCH state in cell 1 and has a radio bearer established that is mapped to HS-DSCH. The SS has configured its downlink transmission power setting according to columns "T0" in table 8.3.1.33.

The SS switches its downlink transmission power settings to columns "T1". The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to CELL_PCH in cell 6. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC, selects cell 6 and enters CELL_PCH state.

The SS transmits a PAGING TYPE 1 message. The UE enters the CELL_FACH state to transmit a CELL UPDATE message using uplink CCCH in cell 6 in response to the paging.

The SS switches its downlink transmission power settings to columns "T2". The SS transmits CELL UPDATE CONFIRM message, which includes DPCH and HS-PDSCH physical channel parameters for cell 1 on the downlink DCCH. Then the UE establishes the DPCH and HS-PDSCH in cell 1 and resumes HS-DSCH reception and transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH 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		
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 in cell 1 and the SS configures its downlink transmission power setting according to columns "T1" in table 8.3.1.33.
2			PHYSICAL CHANNEL RECONFIGURATION	
3			PHYSICAL CHANNEL RECONFIGURATION COMPLETE	After transmitting this message, the UE enters the CELL_PCH state in cell 6
4		SS		SS sends the L2 ack on the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then waits 5 seconds to allow the UE to read system information before the next step. Note: The SS should continue to keep the dedicated channel configuration during the time when the L2 ack is sent to the UE.
5	←		PAGING TYPE 1	
6	→		CELL UPDATE	The UE enters the CELL_FACH state.
7		SS		The SS switches its downlink transmission power settings to columns "T2" in table 8.3.1.33.
8	←		CELL UPDATE CONFIRM	
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE changes to cell 1, enters the CELL_DCH state and starts HS-DSCH reception.
10	↔		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 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)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
New C-RNTI	Not Present
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link list	Not present

CELL UPDATE (Step 6)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	Check to see if set to value assigned in cell 1.
- S-RNTI	
- SRNC Identity	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to "Paging response"

CELL UPDATE CONFIRM (Step 8)

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

Information Element	Value/remark
New H-RNTI	'0101 0101 0101 0101'
RRC State indicator	CELL_DCH
Frequency info	Set to the frequency of cell 1
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink HS-PDSCH Information	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Downlink information for each radio link list	
- Downlink information for each radio link	
- Choice mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the primary scrambling code of cell 1
- 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	
- 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	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	1
- Scrambling code change	No change
- TPC combination index	0
- Power offset $P_{TPC-DPDCH}$	Not Present
- SSDT Cell Identity	Not Present
- Closed loop timing adjustment mode	Not Present
- SCCPCH information for FACH	

8.3.1.33.5 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 CELL UPDATE message.

After step 8, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC in cell 1.

8.3.1.34 Cell Update: Transition from CELL_DCH to CELL_FACH, stop of HS-DSCH reception

8.3.1.34.1 Definition

8.3.1.34.2 Conformance requirement

1> Radio link failure:

...

3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6 of TS 25.331; or

...

4> perform cell update using the cause "radio link failure".

When initiating the URA update or cell update procedure, the UE shall:

...

- 1> if HS-DSCH is configured:
 - 2> stop any HS-DSCH reception procedures;
 - 2> clear any stored HS-PDSCH configuration;
 - 2> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;
 - 2> release all HARQ resources;
 - 2> remove any H-RNTI stored;
 - 2> clear the variable H_RNTI;
 - 2> set the variable HS_DSCH_RECEPTION to FALSE.
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to subclause 8.5.17 of TS 25.331;
 - 2> select Secondary CCPCH according to subclause 8.5.19 of TS 25.331;
 - 2> use the transport format set given in system information as specified in subclause 8.6.5.1 of TS 25.331.

Reference

3GPP TS 25.331 clauses 8.3.1.2

8.3.1.34 .3 Test purpose

To confirm that the UE stops HS-DSCH reception after a radio link failure in CELL_DCH during HS-DSCH reception.

8.3.1.34 .4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 2 is inactive.
 UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.3.1.34

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

Table 8.3.1.34 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions. The UE is in CELL_DCH state and only signalling radio bearers have been established. SS initiates P25 to make the UE to move to state 6-17 as specified in TS 34.108 clause 7.4. The UE is in the CELL_DCH state and has a radio bearer established that is mapped to HS-DSCH. SS configures its

downlink transmission power settings according to column "T1" in table 8.3.1.34. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 2. After that, it shall then enter CELL_FACH state and transmit a CELL UPDATE message on the uplink CCCH to SS.

The SS transmits a CELL UPDATE CONFIRM message which request the UE to transit to CELL_FACH state.

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				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.26. SS starts to listen to the uplink CCCH of cell 2.
2				The UE detects the radio link failure and stops reception of HS-DSCH.
3		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	

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
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 A9, with the following exception;
- MAC-d PDU size	656

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
---------------------	--------------

U-RNTI	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
- SRNC Identity	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to "Radio link failure"

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in TS 34.108 clause 9 with the exception of the following IEs:

Information Element	Value/remark
New C-RNTI	'0101 0101 0101 0101 0101'
RLC re-establish indicator (RB2, RB3 and RB4)	TRUE
RB information to reconfigure list	(AM DCCH for RRC)
- RB information to reconfigure	2
- RB identity	Not Present
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	AM RLC
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	No discard
- SDU discard mode	15
- MAX_DAT	128
- Transmission window size	600
- Timer_RST	4
- Max_RST	4
- Polling info	250
- Timer_poll_prohibit	250
- Timer_poll	Not present
- Poll_PDU	1
- Poll_SDU	TRUE
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	99
- Poll_Window	Not Present
- Timer_poll_periodic	AM RLC
- CHOICE Downlink RLC mode	TRUE
- In-sequence delivery	128
- Receiving window size	200
- Downlink RLC status info	Not present
- Timer_status_prohibit	TRUE
- Timer_EPC	Not Present
- Missing PDU indicator	Not Present
- 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
Deleted DL TrCH Information	
- Downlink transport channel type	HS-DSCH
- DL HS-DSCH MAC-d flow identity	0
Added or Reconfigured DL TrCH information	
- MAC-d PDU size	336

8.3.1.34 .5 Test requirement

After step 2, the UE shall transmit a CELL UPDATE message and stop HS-DSCH reception.

8.3.1.35 Cell Update: Transition from CELL_DCH to CELL_DCH, with active HS-DSCH reception

8.3.1.35 .1 Definition

8.3.1.35 .2 Conformance requirement

1> Radio link failure:

...

3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6 of TS 25.331; or

...

4> perform cell update using the cause "radio link failure".

When initiating the URA update or cell update procedure, the UE shall:

...

1> if HS-DSCH is configured:

2> stop any HS-DSCH reception procedures;

2> clear any stored HS-PDSCH configuration;

2> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;

2> release all HARQ resources;

2> remove any H-RNTI stored;

2> clear the variable H_RNTI;

2> set the variable HS_DSCH_RECEPTION to FALSE.

Reference

3GPP TS 25.331 clauses 8.3.1.2

8.3.1.35 .3 Test purpose

To confirm that the UE keeps the RB mapping option for HS-DSCH reception after a radio link failure in CELL_DCH during HS-DSCH reception.

8.3.1.35 .4 Method of test

Initial Condition

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

UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.3.1.35

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

Table 8.3.1.35 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is in CELL_DCH state and only signalling radio bearers have been established. SS initiates P25 to make the UE to move to state 6-17 as specified in TS 34.108 clause 7.4. The UE is in the CELL_DCH state and has a radio bearer established that is mapped to HS-DSCH. SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.35. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 2. After that, it shall then enter CELL_FACH state and transmit a CELL UPDATE message on the uplink CCCH to SS.

The SS transmits a CELL UPDATE CONFIRM message which request the UE to transit to CELL_DCH state and start reception of HS-DSCH.

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				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.35. SS starts to listen to the uplink CCCH of cell 2.
2				The UE detects the radio link failure and stops reception of HS-DSCH.
3		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	
5		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

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.

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - S-RNTI - SRNC Identity Cell Update Cause	Check to see if set to value assigned in cell 1. Check to see if set to value assigned in cell 1. Check to see if set to “Radio link failure”

CELL UPDATE CONFIRM (Step 4)

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

Information Element	Value/remark
New H-RNTI	'0101 0101 0101 0101 0101'
RRC State indicator	CELL_DCH
UL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9
DL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Added or Reconfigured DL TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9
Downlink HS-PDSCH Information	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9
Downlink information per radio link list - Primary CPICH info - Primary scrambling code	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exception; 150

8.3.1.35 .5 Test requirement

After step 2, the UE shall transmit a CELL UPDATE message.
 After step 4, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and start reception of HS-DSCH.

8.3.1.36 Cell Update: Transition from CELL_DCH to CELL_FACH (stop of HS-DSCH reception with frequency modification)

8.3.1.36 .1 Definition

(All UEs which support FDD and HS-PDSCH.)

8.3.1.36 .2 Conformance requirement

1> Radio link failure:

...

3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6; or

...

4> perform cell update using the cause "radio link failure".

When initiating the URA update or cell update procedure, the UE shall:

...

1> if HS-DSCH is configured:

- 2> stop any HS-DSCH reception procedures;
- 2> clear any stored HS-PDSCH configuration;
- 2> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;
- 2> release all HARQ resources;
- 2> remove any H-RNTI stored;
- 2> clear the variable H_RNTI;
- 2> set the variable HS_DSCH_RECEPTION to FALSE.

1> if the UE is not already in CELL_FACH state:

- 2> move to CELL_FACH state;
- 2> select PRACH according to subclause 8.5.17;
- 2> select Secondary CCPCH according to subclause 8.5.19;
- 2> use the transport format set given in system information as specified in subclause 8.6.5.1.

Reference

3GPP TS 25.331 clauses 8.3.1.2

8.3.1.36 .3 Test purpose

To confirm that the UE stops HS-DSCH reception after a radio link failure in CELL_DCH during HS-DSCH reception.

8.3.1.36 .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.

Test Procedure

Table 8.3.1.36

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	OFF	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	OFF	-75	-60

Table 8.3.1.36 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is in CELL_DCH state and only signalling radio bearers have been established. SS initiates P25 to make the UE to move to state 6-17 as specified in TS 34.108 clause 7.4. The UE is in the CELL_DCH state and has a radio bearer established that is mapped to HS-DSCH. SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.36. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 6. After that, it shall then enter CELL_FACH state and transmit a CELL_UPDATE message on the uplink CCCH to SS.

The SS transmits a CELL_UPDATE_CONFIRM message which requests the UE to transit to CELL_FACH state.

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				SS configures cell 1 and 6 according to column "T1" in table 8.3.1.36. SS starts to listen to the uplink CCCH of cell 6.
2				The UE detects the radio link failure and stops reception of HS-DSCH.
3		→	CELL UPDATE	The UE shall find a new cell 6 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	

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.

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - S-RNTI - SRNC Identity	Check to see if set to value assigned in cell 1. Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to "Radio link failure"

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in TS 34.108 clause 9 with the exception of the following IEs:

Information Element	Value/remark
New C-RNTI	'0101 0101 0101 0101 0101'
RLC re-establish indicator (RB2, RB3 and RB4)	TRUE
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
Deleted DL TrCH Information	Same as the set defined in RADIO BEARER RELEASE message found in TS 34.108 clause 9 under condition A9.
Frequency info	
- UARFCN uplink (Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink (Nd)	Same downlink UARFCN as used for cell 6

8.3.1.36 .5 Test requirement

After step 2, the UE shall transmit a CELL UPDATE message and stop HS-DSCH reception.

8.3.1.37 Cell Update: Transition from CELL_DCH to CELL_DCH (with active HS-DSCH reception and frequency modification)

8.3.1.37 .1 Definition

(All UEs which support FDD and HS-PDSCH.)

8.3.1.37 .2 Conformance requirement

1> Radio link failure:

...

3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6; or

...

4> perform cell update using the cause "radio link failure".

When initiating the URA update or cell update procedure, the UE shall:

...

- 1> if HS-DSCH is configured:
 - 2> stop any HS-DSCH reception procedures;
 - 2> clear any stored HS-PDSCH configuration;
 - 2> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;
 - 2> release all HARQ resources;
 - 2> remove any H-RNTI stored;
 - 2> clear the variable H_RNTI;
 - 2> set the variable HS_DSCH_RECEPTION to FALSE.

Reference

3GPP TS 25.331 clauses 8.3.1.2

8.3.1.37 .3 Test purpose

To confirm that the UE keeps the RB mapping option for HS-DSCH reception after a radio link failure in CELL_DCH during HS-DSCH reception.

8.3.1.37 .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.

Test Procedure

Table 8.3.1.37

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	OFF	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	OFF	-75	-60

Table 8.3.1.37 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is in CELL_DCH state and only signalling radio bearers have been established. SS initiates P25 to make the UE to move to state 6-17 as specified in TS 34.108 clause 7.4. The UE is in the CELL_DCH state and has a radio bearer established that is mapped to HS-DSCH. SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.37. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 6. After that, it shall then enter CELL_FACH state and transmit a CELL UPDATE message on the uplink CCCH to SS.

The SS transmits a CELL UPDATE CONFIRM message which requests the UE to transit to CELL_DCH state and start reception of HS-DSCH.

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				SS configures cell 1 and 6 according to column "T1" in table 8.3.1.36. SS starts to listen to the uplink CCCH of cell 6.
2				The UE detects the radio link failure and stops reception of HS-DSCH.
3		→	CELL UPDATE	The UE shall find a new cell 6 and the value "radio link failure" shall be set in IE "Cell update cause".
4		←	CELL UPDATE CONFIRM	
5		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

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, with the following exceptions
- PDCP info	Not present
- Transmission RLC discard	
- MAX_DAT	10
- Transmission window size	256
- Timer_RST	1000
- Max_RST	12
- Timer_poll_prohibit	50
- Timer_poll	400
- Poll_Windows	80
- Receiving window size	2047
- Downlink RLC status info	

- Timer_status_prohibit	50
UL Transport channel Information for all transport channels - CHOICE Gain Factors - Gain factor β_c - Gain factor β_d	Computed Gain Factors (The last TFC is set to Signalled Gain Factors) 10 (below 64 kbps) 8 (higher than 64 kbps) 15 (Not Present if the CHOICE Gain Factors is set to Computed Gain Factors)
Added or Reconfigured DL TrCH information - MAC-d PDU size	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A10, with the following exception; 656
Maximum allowed UL TX power	24dBm
CHOICE channel requirement - Δ_{ACK} - Δ_{NACK}	6 6
Downlink HS-PDSCH Information - Measurement Feedback Info - POhsdsch - CQI Feedback cycle, k - Δ_{CQI}	9dB 10ms 3

CELL UPDATE (Step 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - S-RNTI - SRNC Identity	Check to see if set to value assigned in cell 1. Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to "Radio link failure"

CELL UPDATE CONFIRM (Step 4)

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

Information Element	Value/remark
New H-RNTI	'0101 0101 0101 0101 0101'
RRC State indicator	CELL_DCH
RLC re-establish indicator (RB2, RB3 and RB4)	TRUE

UL Transport channel information common for all transport channels - CHOICE Gain Factors - Gainfactor β_c - Gain factor β_d	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exceptions; Computed Gain Factors (The last TFC is set to Signalled Gain Factors) 10 (below 64 kbps) 8 (higher than 64 kbps)
- Gain factor β_d	15 (Not Present if the CHOICE Gain Factors is set to Computed Gain Factors)
DL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9.
Added or Reconfigured DL TrCH information list - MAC-d PDU size	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A10. 656
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6
CHOICE channel requirement - Δ_{ACK} - Δ_{NACK}	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exceptions; 6 6
Downlink HS-PDSCH Information - Measurement Feedback Info - PO _{hsdsch} - CQI Feedback cycle, k - Δ_{CQI}	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exceptions; 9dB 10ms 3
Downlink information common for all radio links - Timing indicator	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exception; Initialise
Downlink information per radio link list - Primary CPICH info - Primary scrambling code	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A9, with the following exception; 350

8.3.1.37 .5 Test requirement

After step 2, the UE shall transmit a CELL UPDATE message.

After step 4, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and start reception of HS-DSCH.

8.3.2 URA Update

8.3.2.1 URA Update: Change of URA

8.3.2.1.1 Definition

8.3.2.1.2 Conformance requirement

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

- 1> URA reselection:
 - 2> if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or
 - 2> if the list of URA identities in system information block type 2 is empty; or
 - 2> if the system information block type 2 can not be found:
 - ...
 - 3> perform URA update using the cause "change of URA".

When initiating the URA update procedure, the UE shall:

- 1> stop timer T305;
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> move to CELL_FACH state, if not already in that state;
- 1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;
- 1> in case of a URA update procedure:
 - 2> set the contents of the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 2> submit the URA UPDATE message for transmission on the uplink CCCH.
- 1> set counter V302 to 1;
- 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

In case of URA update procedure the UE shall transmit a URA UPDATE message.

The UE shall set the IEs in the URA UPDATE message as follows:

- 1> set the IE "U-RNTI" to the value of the variable U_RNTI;
- 1> set the IE "URA update cause" corresponding to which cause as specified in TS 25.331 subclause 8.3.1.2 that is valid when the URA UPDATE message is submitted to lower layers for transmission;
 - 2> if the value of the variable PROTOCOL_ERROR_INDICATOR is TRUE:
 - ...
 - 2> if the value of the variable PROTOCOL_ERROR_INDICATOR is FALSE:
 - 3> if the value of the variable INVALID_CONFIGURATION is TRUE:
 - ...
 - 3> if the value of the variable INVALID_CONFIGURATION is FALSE:
 - 4> set the IE "Protocol error indicator" to FALSE.

If the URA UPDATE CONFIRM message:

- 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 U-RNTI"; and
- does not include the IE "New C-RNTI":

the UE shall:

- 1> transmit no response message.

...

If any or several of the following conditions are true:

...

- reselection to another UTRA cell (including the previously serving cell) before completion of the cell update or URA update procedure;

the UE shall:

...

- 1> check whether it is still in "in service area" (see TS 25.331 subclause 8.5.5.2);

...

- 1> in case of a URA update procedure:

- 2> clear any entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS.

If the UE detects "in service area" if it has not entered idle mode, and:

- 1> if V302 is equal to or smaller than N302, the UE shall:

- 2> if the UE performed cell re-selection:

- 3> delete its C-RNTI.

...

- 2> in case of a URA update procedure:

- 3> set the contents of the URA UPDATE message according to TS 25.331 subclauses 8.3.1.3 and 8.5.10;

- 3> if a URA UPDATE CONFIRM message was received and caused the IE "Reconfiguration" in the variable CIPHERING_STATUS to be set to TRUE and/or the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:

...

- 3> submit the URA UPDATE message for transmission on the uplink CCCH.

...

The UE shall:

- 1> if the IE "URA identity" is included in a received message:

- 2> if the IE "RRC State Indicator" is included and set to "URA_PCH":

- 3> store this URA identity in the variable URA_IDENTITY;

- 3> after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read system information block type 2 in the selected cell;

3> if the stored URA identity in the variable URA_IDENTITY is not included in the list of URA identities in System Information Block type 2 in the selected cell, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:

4> if no URA update procedure is ongoing:

...

4> if a URA update procedure is ongoing:

5> take actions as specified in TS 25.331 subclause 8.3.1.10.

If the URA UPDATE CONFIRM message causes a confirmation error of URA identity list as specified in TS 25.331 subclause 8.6.2.1 the UE shall:

1> check the value of V302; and

1> if V302 is smaller or equal than N302:

...

2> set the IEs in the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the URA UPDATE message for transmission on the uplink CCCH;

...

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.12, 8.6.2.1

8.3.2.1.3 Test purpose

1. To confirm that the UE executes an URA update procedure after the successful change of URA.
2. To confirm that the UE performs an URA update procedure after it detects that SIB 2 is not broadcasted.
3. To confirm that the UE performs an URA update procedure after it detects a confirmation error of URA identity list.

8.3.2.1.4 Method of test

Initial Condition

System Simulator: 2 cells: The URA-ID and transmission power for each cell is shown in Table 8.3.2.1, where the initial condition is shown in column "T0".

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, with URA-ID 1 from the list of URA-ID in cell 1.

Test Procedure

Parameter	Unit	Cell 1							Cell 2								
		T0	T1	T2	T3	T4	T5	T6	T7	T0	T1	T2	T3	T4	T5	T6	T7
UTRA RF Channel Number		Ch. 1							Ch. 1								
CPICH Ec	dBm/3.84MHz	-60	-69	-60	-69	-60	-69	-60	-69	-69	-60	-69	-60	-69	-69	-60	-69
P-CCPCH RSCP (TDD)	dBm	-60	-69	-60	-69	-60	-69	-60	-69	-69	-60	-69	-60	-69	-69	-60	-69
URA ID		URA-ID 1		URA-ID 2					URA-ID 1,3 and 4					no SIB2			

The test begins with the downlink power transmission of both cells set according to 'T0' column in table 8.3.2.1. The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1:

URA-ID 1. The SS then adjusts the transmission power again according to the 'T1' column. This is expected to cause the UE to perform a cell reselection to cell 2. Since URA-ID 1 is also broadcasted in cell 2, the UE shall not perform any URA update procedure due to the change of URA. Starting from time 'T2', SS modifies the system information in cell 1, so that URA-ID 2 is the only URA identity in that cell. Next SS adjusts the transmission power according to 'T3' column. UE shall perform a cell reselection to cell 1 and when the UE finds that its current URA-ID 1 is not in the new broadcasted list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH. After the SS receives this message, it transmits a URA UPDATE CONFIRM message, which includes the IEs "RRC State Indicator" and IE "URA-ID" to the UE on the downlink CCCH. The IE "RRC State Indicator" is set to "URA_PCH". UE returns to URA_PCH state in cell 1 without sending any uplink response message. Next SS adjusts the transmission power according to 'T4' column. UE shall re-select to cell 2 and transmit a URA UPDATE message to SS. However, SS do not acknowledge but adjusts the transmission power according to 'T5' column. UE shall perform cell re-selection to cell 1 and then send a URA UPDATE message to SS. SS shall transmit URA UPDATE CONFIRM message to UE on the downlink CCCH. Starting from time 'T6', SS modifies the system information in cell 2, so that no SIB 2 is sent in that cell. Next the SS adjusts the transmission power according to the 'T7' column. The UE shall re-select to cell 2 and send a URA UPDATE message since no SIB2 is broadcasted in this cell. When the UE receives a URA UPDATE CONFIRM message including a URA identity, the UE will again send a URA UPDATE message. When receiving this last message, the SS shall transmit RRC Connection Release message on downlink CCCH to release the RRC connection.

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 updated with only 1 URA identity carried currently by cell 1. The starting state of the UE is URA_PCH
2				SS set the power transmission and system information of all cells according to column 'T1' of table 8.3.2.1.
3				UE shall perform a cell reselection but shall not transmit URA UPDATE message with the update cause of "change of URA".
3a				Starting from time 'T2', SS modifies the system information in cell 1, so that URA-ID 2 is the only URA identity in that cell
4				SS set the power transmission and system information of all cells according to column 'T3' of table 8.3.2.1.
5		→	URA UPDATE	The UE shall perform a cell reselection first and when it finds that its current URA-ID 1 is not in the newly broadcasted list of URA-IDs, it shall then transmit this message and set value "change of URA" into IE "URA update cause".
6		←	URA UPDATE CONFIRM	Message comprises IE "RRC State Indicator" set to "URA_PCH", and also IE "URA Identity" equal to "URA-ID 2".
7				SS set the power transmission and system information of all cells according to column 'T4' of table 8.3.2.1.
8		→	URA UPDATE	

9			SS do not respond to the URA UPDATE message from UE and set the power transmission and system information of all cells according to column 'T5' of table 8.3.2.1.
10	→	URA UPDATE	
11	←	URA UPDATE CONFIRM	
11a			Starting from time 'T6', SS modifies the system information in cell 2, so that no SIB 2 is sent in that cell.
12			SS set the power transmission and system informatio of all cells according to column 'T7' of table 8.3.2.1.
13	→	URA UPDATE	The UE shall perform a cell reselection first and when it finds that no URA-ID is broadcasted in this cell, it shall then transmit this message and set value "change of URA" into IE "URA update cause".
14	←	URA UPDATE CONFIRM	Message comprises IE "RRC State Indicator" set to "URA_PCH", and also IE "URA Identity" equals to "URA-ID 2".
15	→	URA UPDATE	
16	←	RRC CONNECTION RELEASE	This message is sent on CCCH.
17	→	Void	
18			UE enters idle mode

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 2

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exceptios.

Cell 1, time T0-T1:

Information Element	Value/remark
- URA identity list - URA identity	0000 0000 0000 0001B

Cell 2, time T0-T5:

Information Element	Value/remark
- URA identity list	
- URA identity	0000 0000 0000 0011B
- URA identity	0000 0000 0000 0001B
- URA identity	0000 0000 0000 0100B

Cell 1, time T2-T7 (step 3a):

Information Element	Value/remark
- URA identity list - URA identity	0000 0000 0000 0010B

Cell 2, time T6-T7 (step 11a):

No SYSTEM INFORMATION BLOCK TYPE 2 is broadcasted in cell 2 during this time period.

URA UPDATE (Step 5, 8, 10, 13, and 15)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'change of URA'

URA UPDATE CONFIRM (Step 6, 11 and 14)

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

Information Element	Value/remark
URA identity	URA-ID 2

8.3.2.1.5 Test requirement

After step 2 the UE shall not transmit a URA UPDATE message with update cause "change of URA".

After step 4 the UE shall find that URA-ID 2 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit a URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 7 the UE shall find that URA-ID 1 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and a transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 9 the UE shall find the new cell and transmit a URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 12 the UE shall find that no URA-ID is broadcasted in the cell, move to CELL_FACH state and transmit a URA UPDATE message setting the update cause to "change of URA".

After step 14 the UE shall find that no URA-ID is broadcasted in the cell and transmit a URA UPDATE message setting the update cause to "change of URA".

8.3.2.2 URA Update: Periodical URA update and Reception of Invalid message

8.3.2.2.1 Definition

8.3.2.2.2 Conformance requirement

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

...

1> Periodic URA update:

2> if the criteria for performing URA update with the causes as specified above in the current subclause are not met; and

2> if the timer T305 expires while the UE is in the service area; and

2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":

3> perform URA update using the cause "periodic URA update".

...

If the UE receives an URA UPDATE 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> If `V302` is equal to or smaller than `N302`, the UE shall:

2> set the variable `PROTOCOL_ERROR_INDICATOR` to `TRUE`;

...

2> in case of a URA update procedure:

3> set the contents of the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the URA UPDATE message for transmission on the uplink CCCH.

2> increment counter `V302`;

2> restart timer `T302` when the MAC layer indicates success or failure to transmit the message.

1> if `V302` is greater than `N302`, the UE shall:

...

2> release all its radio resources;

2> enter idle mode;

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

2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.7, 8.3.1.11

8.3.2.2.3 Test purpose

1. To confirm that the UE executes a URA update procedure after the expiry of timer `T305`.
2. To verify that the UE handles an invalid URA UPDATE CONFIRM message correctly when executing the URA update procedure.

8.3.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: `URA_PCH` (state 6-13) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in `URA_PCH` state. When the UE detects the expiry of timer `T305`, set according to the value specified in system information, the UE moves to `CELL_FACH` state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be "periodic URA update" in IE "URA update cause". SS replies with an invalid URA UPDATE CONFIRM message sent on downlink DCCH, and check to see if the UE handles this event properly. The UE shall attempt to retransmit the identical URA UPDATE message. After the SS receives the second URA UPDATE message, it transmits a correct URA UPDATE CONFIRM message to the UE on the downlink CCCH. The UE then returns to `URA_PCH` state. SS calls for generic procedure C.5 to check that UE is in `URA_PCH` state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state. SS wait until T305 timer has expired.
2		→	URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE "URA update cause".
3		←	URA UPDATE CONFIRM	See specific message content.
4		→	URA UPDATE	UE shall not return to idle mode immediately, but attempts to re-transmit this message.
5		←	URA UPDATE CONFIRM	
6			Void	
7		↔	CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

URA UPDATE (Step 2)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI URA Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Periodic URA update'

URA UPDATE CONFIRM (Step 3)

Use the URA UPDATE CONFIRM message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Critical extensions	'FF'H

URA UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'

RRC Transaction identifier	Check to see if set to the value given in URA UPDATE CONFIRM message in step 3.
URA Update Cause	Check to see if set to 'Periodic URA update'
Protocol error indicator	TRUE
Protocol error information - Protocol error cause	Message extension not comprehended

URA UPDATE CONFIRM (Step 5)

Use the URA UPDATE CONFIRM message as defined in [9] TS 34.108 clause 9.

8.3.2.2.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, move to CELL_FACH state, and transmit a URA UPDATE message which sets the value "periodical cell update" into IE "URA update cause".

After step 3 the UE shall re-transmit URA UPDATE message with IE "Protocol error indicator" set to 'TRUE' and IE "Protocol error information" set to "Message extension not comprehended".

After step 5 the UE shall return to the URA_PCH state.

8.3.2.3 Void

8.3.2.4 URA Update: loss of service after expiry of timers T307 and T305

8.3.2.4.1 Definition

8.3.2.4.2 Conformance requirement

When the T305 expires and the UE detects that it is "out of service area" as specified in TS 25.331 subclause 8.5.5.1, the UE shall

1> start timer T307;

...

When the T307 expires, the UE shall:

1> move to idle mode;

1> release all dedicated resources;

1> indicate release (abort) 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> perform other actions when entering idle mode from connected mode as specified in TS 25.331 subclause 8.5.2;

1> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.4.

8.3.2.4.3 Test purpose

1. To confirm that the UE moves to idle mode after the expiry of timer T307, following an expiry of timer T305 when it discovers that it is out of service area.

8.3.2.4.4 Method of test

Initial Condition

System Simulator: 1 cell

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

Test Procedure

Table 8.3.2.4

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.2.4 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_DCH state. The SS transmits UTRAN MOBILITY INFORMATION message to the UE to change the value of T305. The UE shall respond with UTRAN MOBILITY INFORMATION CONFIRM message. The UE transits to URA_PCH state using the generic procedure P18 in TS 34.108 clause 7.4. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. The SS waits for reception of a periodical URA update in order to know the timing of the T305 in the UE. The SS replies to the received URA UPDATE message with an URA UPDATE CONFIRM message on the downlink CCCH. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.2.4 so that $S < 0$. When the UE detects the expiry of periodic URA updating timer T305 according to the system information, the UE detects that it is out of service area. After the expiry of timer T307, the UE moves to the idle state. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.2.4 so that $S > 0$. SS waits for 15s and then calls for generic procedure C.1 to check that UE is in idle mode state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0				Initially, the UE is in CELL_DCH state.
0a		←	UTRAN MOBILITY INFORMATION	Include new timers value (see specific message contents).
0b		→	UTRAN MOBILITY INFORMATION CONFIRM	
0c		↔	SS executes procedure P18 (clause 7.4.2.7.2) specified in TS 34.108.	Transit the UE to URA_PCH state. URA-ID 1 shall be in the list of URA-ID.
1			Void	
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	PAGING TYPE 1	Include IE "BCCH modification info"
1c		→	URA UPDATE	IE "URA update cause" shall be set to "periodical URA update".
1d		←	URA UPDATE CONFIRM	

2a			SS configures its downlink transmission power settings according to columns "T1" in table 8.3.2.4 so that the UE detects that it is out of service area.
2b			SS waits (T305+T307) +10% for UE to enter idle mode.
3			Upon the expiry of timer T305, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that URA UPDATE message is not transmitted.
4			After the expiry of timer T307, the UE enters idle state. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.10 so that the cell is suitable for camping. SS waits for 15s.
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

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Value Tag	2 A valid MIB value tag as defined in TS 25.331 that is different from the previous value
Scheduling information - PLMN Value tag	- Scheduling info for System Information Type 1 2 A valid PLMN value tag as defined in TS 25.331 that is different from the previous value
Scheduling information - Cell Value tag	- Scheduling info for System Information Type 3 2 A valid Cell value tag as defined in TS 25.331 that is different from the previous value
Scheduling information - Cell Value tag	- Scheduling info for System Information Type 4 2 A valid Cell value tag as defined in TS 25.331 that is different from the previous value

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

PAGING TYPE 1 (Step 1b)

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

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2 A valid Cell value tag as defined in TS 25.331 that is different from the previous value
BCCH modification time	Not present

UTRAN MOBILITY INFORMATION (Step 0a)

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

Information Element	Value/remark
- T305	5 minutes

UTRAN MOBILITY INFORMATION CONFIRM (Step 0b)

Use the same message sub-type found in clause 9 of TS 34.108.

URA UPDATE (Step 1c)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to "periodical URA update"

8.3.2.4.5 Test requirement

After step 0a the UE shall respond with UTRAN MOBILITY INFORMATION CONFIRM message.

After step 2 the UE shall not transmit any URA UPDATE message on the uplink CCCH.

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

Tdoc **R5-050612**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1163 ⌘ 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 8.3.11.4 (WI-010)		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 14/04/05
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ In the step 5 the UE has switched to GPRS cell triggering NAS to perform the RA Update procedure. The procedure will fail and the UE will go back to the UTRAN cell. The UE will continue the RA Update procedure after going back to the UTRAN Cell and a ROUTING AREA UPDATE REQUEST will be sent after step 12.
Summary of change:	⌘ Optional step 13 added for ROUTING AREA UPDATE REQUEST.
Consequences if not approved:	⌘ Test case may fail compliant UE.

Clauses affected:	⌘ 8.3.11.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Y	N										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
Other comments:	⌘ Affects R99, Rel4 and Rel5 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.

8.3.11.4 Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Failure (Physical channel Failure and Reversion Failure)

8.3.11.4.1 Definition

8.3.11.4.2 Conformance requirement

If:

- timer T309 expires prior to the successful establishment of a connection to the target RAT; or
- if the establishment of the connection to the other RAT failed due to other reasons e.g. (random) access failure, rejection due to lack of resources:

the UE shall:

- 1> if it received the CELL CHANGE ORDER FROM UTRAN message in state CELL_DCH:
 - 2> revert back to the UTRA configuration;
 - 2> establish the UTRA physical channel(s) used at the time for reception of CELL CHANGE ORDER FROM UTRAN;
 - 2> if the UE does not succeed in establishing the UTRA physical channel(s):
 - 3> perform a cell update procedure according to subclause 8.3.1 with cause "Radio link failure";
 - 3> when the cell update procedure has completed successfully:
 - 4> proceed as below.
 - 2> transmit the CELL CHANGE ORDER FROM UTRAN FAILURE message setting the information elements as specified below:
 - 3> include the IE "RRC transaction identifier"; and
 - 3> 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
 - 3> clear that entry;
 - 3> set the IE "Inter-RAT change failure" to "physical channel failure".
 - 2> When the CELL CHANGE ORDER FROM UTRAN FAILURE message has been submitted to lower layer for transmission, the procedure ends.

Reference(s)

TS 25.331 clause 8.3.11

8.3.11.4.3 Test purpose

To verify that when UE received CELL CHANGE ORDER FROM UTRAN message in CELL_DCH state and if the establishment of the connection to the other RAT failed due to other reasons e.g. (random) access failure, rejection due to lack of resources:

- a. revert back to the UTRA configuration;
- b. if the UE does not succeed in establishing the UTRA physical channel(s):
 - perform a cell update procedure with cause "Radio link failure";
- c. when the cell update procedure is completed successfully, it transmits the CELL CHANGE ORDER FROM UTRAN FAILURE message and set the IE "Inter-RAT change failure" to "physical channel failure".

8.3.11.4.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 2 is GPRS. 51.010 clauses 20.22 and 40.1.1 shall be referenced for the default parameters of cell 2.

All cells belong to the same PLMN . UTRAN and GPRS cells belong to different location area.

UE: PS-DCCH+DTCH_DCH (State 6-10) in cell 1 as specified in clause 7.4 of TS 34.108, one PS domain RAB is established.

Related ICS/IXIT statement

- UE supports both GSM/GPRS and UTRAN Radio Access Technologies,
- UE supports UTRAN interactive/ background UL: 64kbps, DL: 64 kbps/PS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480,

Test Procedure

The SS starts the UTRAN cell and brings the UE into PS-DCCH+DTCH_DCH (state 6-10). The SS starts GPRS cell, then sends CELL CHANGE ORDER FROM UTRAN indicating the target cell description, GPRS cell, to the UE through DCCH of the serving UTRAN cell. The UE receives the command and configures itself accordingly but cannot complete the cell change and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not use the old configuration. The UE transmit CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits the CELL CHANGE ORDER FAILURE message to the SS in UTRAN cell, on the DCCH using AM RLC, setting the value of IE " Inter-RAT change failure " to " physical channel failure".

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into PS-DCCCH+DTCH_DCH (State 6-10) in cell 1
2	SS			The SS configures cell 2 as a GSM cell with GPRS enabled
3	←		CELL CHANGE ORDER FROM UTRAN	Send on cell 1 (UTRAN cell) and the message indicates: the target cell description for GSM/GPRS.
3a	SS			SS removes the physical channel (DPCH), which was allocated to the mobile before Cell Change Order From UTRAN transmission
4	UE			The UE accepts the cell change command and switches to the GSM/GPRS specified in the CELL CHANGE ORDER FROM UTRAN
5	→		CHANNEL REQUEST	The SS receives this burst on RACH of cell 2 (GPRS cell) to establish temporary block flow. It implies that the UE has switched to GPRS cell.
6	←		IMMEDIATE ASSIGNMENT REJECT	SS rejects the channel request
7			VOID	
8	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
9	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
10				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
11	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
12	→		CELL CHANGE ORDER FROM UTRAN FAILURE	The IE "Inter-RAT failure cause" shall be set to "physical channel failure"
13	⇒		ROUTING AREA UPDATE REQUEST	Optional step. The UE may send a ROUTING AREA UPDATE REQUEST to complete the RA Update procedure initiated at step 5.

Specific message contents

CELL CHANGE ORDER FROM UTRAN

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.

Information Element	Value/remark
Activation time Target cell description - CHOICE <i>Radio Access Technology</i> - GSM - BSIC - Band Indicator - BCCH ARFCN - NC mode	Now BSIC of Cell 2 Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band" Allocated BCCH ARFCN of Cell 2 Not present

CELL UPDATE (Step 8)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 9)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI RRC State indicator Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd) Maximum allowed UL TX power CHOICE <i>channel requirement</i> - Uplink DPCH power control info - DPCCCH power offset - PC Preamble - SRB delay - Power Control Algorithm - TPC step size - Scrambling code type - Scrambling code number - Number of DPDCH - spreading factor - TFCI existence - Number of FBI bit - Puncturing Limit Downlink information common for all radio	Same as CELL UPDATE message in step 3 CELL_DCH Reference to TS34.108 clause 5.1 Test frequencies Reference to TS34.108 clause 5.1 Test frequencies 33dBm Uplink DPCH info -80dB (i.e. ASN.1 IE value of -40) 1 frame 7 frames Algorithm1 1dB Long 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Set TRUE Not present p10-96

links	
- Downlink DPCH info common for all RL	
- Timing indicator	Initialise
- CFN-targetSFN frame offset	Not Present
- Downlink DPCH power control information	
- DPC mode	0 (single)
- CHOICE mode	FDD
- Power offset $P_{Pilot-DPCH}$	0
- DL rate matching restriction	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	flexible
- TFCI existence	TRUE
- 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	Set to value: Default DPCH Offset Value (as currently stored in SS) mod 38400
Downlink information for each radio links	
CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	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	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 CHANGE ORDER FROM UTRAN FAILURE

Information Element	Value/remark
Message Type	

RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink CELL CHANGE ORDER FROM UTRAN 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.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Inter-RAT change failure	
-Inter-RAT change failure cause	physical channel failure

8.3.11.4.5 Test requirement

In step 5 the UE shall transmit a CHANNEL REQUEST message on RACH.

In step 8 the SS shall receive CELL UPDATE message on the old channel of the UTRAN cell with the IE “Cell update cause” set to cause “radio link failure”.

In step 11 the SS shall receive PHYSICAL CHANNEL COMPLETE message.

In step 12 the SS shall receive CELL CHANGE ORDER FROM UTRAN FAILURE message with the IE “Inter-RAT change failure cause” set to “physical channel failure”.

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

Tdoc **R5-050635**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1164 ⌘ 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-010 test cases 8.3.1.10 and 8.3.2.4		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 14/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ <ol style="list-style-type: none"> 1. These test cases allow only 15 seconds wait for a UE which is out of service and performing idle cell search on UTRAN & GERAN to detect the cell power change and camp back on the cell. This is not long enough for the UE to detect in all situations as the time taken to do a full search cycle can be longer. 2. Editorial correction in the Expected sequence of 8.3.2.4.
Summary of change:	⌘ <ol style="list-style-type: none"> 1. The delay is changed from 15 seconds to 30 seconds. 2. At step 4 of the Expected sequence of 8.3.2.4, table reference is changed into 8.3.2.4.
Consequences if not approved:	⌘ A conformant UE could fail the test.

Clauses affected:	⌘ 8.3.1.10, 8.3.2.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
	X										
	X										
	X										
Other comments:	⌘ The TTCN needs to be modified.										

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.

<Start of first modified section>**8.3.1.10 Cell Update: expiry of T307 after T305 expiry and being out of service area****8.3.1.10.1 Definition****8.3.1.10.2 Conformance requirement**

When the T307 expires, the UE shall:

- 1> move to idle mode;
- 1> release all dedicated resources;
- 1> perform other actions when entering idle mode from connected mode as specified in TS 25.331 subclause 8.5.2;
- 1> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.10.3 Test purpose

- 1 To confirm that the UE moves to idle mode after the expiry of T307, indicating that it is out of service area when attempting to perform a periodic cell updating procedure.

8.3.1.10.4 Method of test**Initial Condition**

System Simulator: 1 cell

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

Timer T305 is set to 5min.

Test Procedure**Table 8.3.1.10**

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec (FDD)	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.1.10 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_FACH state at the start of the test. Before the expiry of periodic cell updating timer T305, the content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified.

After T305 expires, UE shall transmit CELL UPDATE message with IE "cell update cause" set to "periodical cell update". SS shall transmit CELL UPDATE CONFIRM message. Now the UE and SS are synchronized. Immediately after the cell update procedure is finalized, the SS starts a delay timer T_{delay} (see below for limits on the timer value). When T_{delay} expires the SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.10 so that $S < 0$ and this results in a "out of service area" condition. The SS continues to listen to the uplink channel to detect possible attempts to perform a cell updating procedure. The UE shall not send any CELL UPDATE message on the uplink CCCH, instead it triggers timer T307 after expiry of T305. After the expiry of timer $T305 + T307 + 10\%$ margin since completion of the cell update procedure, SS

configures its downlink transmission power settings according to columns "T0" in table 8.3.1.10 so that $S > 0$, the UE shall enter idle state. SS waits for ~~15~~30s and then calls for generic procedure C.1 to check that UE is in idle mode state.

Note 1 : The value chosen for Tdelay should be midway between the following logical minimum and maximum values:

$$\text{Minimum} > T305 + T307 - T317$$

$$\text{Maximum} < T305$$

Note 2 : TS 25.331 (from June 2003) specifies that the UE should treat any value of T317 received from UTRAN as though it is equal to infinity. Nevertheless, the value of T317 used in Note 1 should be the value broadcast in SIB1 by the SS (or the implied default value if none is broadcast).

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state.
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	SYSTEM INFORMATION CHANGE INDICATION	
1c		→	CELL UPDATE	IE "Cell update cause" shall be set to "periodical cell update".
1d		←	CELL UPDATE CONFIRM	
1e				SS waits T_{delay} (see above)
2a				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.10 so that the cell is no longer suitable for camping. The UE shall detect that it is out of service area and refrains from transmitting CELL UPDATE message due to periodic cell updating.
2b				SS waits a further $(T305+T307- T_{\text{delay}}) +10\%$ for UE to enter idle mode.
3				The UE detects the expiry of timer T305 and it searches for other cells to camp on. After the expiry of timer T307, the UE shall enter idle mode. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.1.10 so that the cell is suitable for camping. SS waits for 15 <u>30</u> s.

Step	Direction		Message	Comment
	UE	SS		
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

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type BCCH modification info MIB Value tag	2

CELL UPDATE (Step 1c)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

--	--

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'periodical cell updating'

8.3.1.10.5 Test requirement

After step 3 the UE shall move to idle mode.

<End of first modified section>

<Start of next modified section>**8.3.2.4 URA Update: loss of service after expiry of timers T307 and T305****8.3.2.4.1 Definition****8.3.2.4.2 Conformance requirement**

When the T305 expires and the UE detects that it is "out of service area" as specified in TS 25.331 subclause 8.5.5.1, the UE shall

1> start timer T307;

...

When the T307 expires, the UE shall:

1> move to idle mode;

1> release all dedicated resources;

1> indicate release (abort) 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> perform other actions when entering idle mode from connected mode as specified in TS 25.331 subclause 8.5.2;

1> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1.4.

8.3.2.4.3 Test purpose

1. To confirm that the UE moves to idle mode after the expiry of timer T307, following an expiry of timer T305 when it discovers that it is out of service area.

8.3.2.4.4 Method of test**Initial Condition**

System Simulator: 1 cell

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

Test Procedure**Table 8.3.2.4**

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm/3.84MHz	-60	-80
P-CCPCH RSCP (TDD)	dBm	-60	-80

Table 8.3.2.4 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_DCH state. The SS transmits UTRAN MOBILITY INFORMATION message to the UE to change the value of T305. The UE shall respond with UTRAN MOBILITY

INFORMATION CONFIRM message. The UE transits to URA_PCH state using the generic procedure P18 in TS 34.108 clause 7.4. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. The SS waits for reception of a periodical URA update in order to know the timing of the T305 in the UE. The SS replies to the received URA UPDATE message with an URA UPDATE CONFIRM message on the downlink CCCH. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.2.4 so that $S < 0$. When the UE detects the expiry of periodic URA updating timer T305 according to the system information, the UE detects that it is out of service area. After the expiry of timer T307, the UE moves to the idle state. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.2.4 so that $S > 0$. SS waits for ~~15~~30s and then calls for generic procedure C.1 to check that UE is in idle mode state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0				Initially, the UE is in CELL_DCH state.
0a		←	UTRAN MOBILITY INFORMATION	Include new timers value (see specific message contents).
0b		→	UTRAN MOBILITY INFORMATION CONFIRM	
0c		↔	SS executes procedure P18 (clause 7.4.2.7.2) specified in TS 34.108.	Transit the UE to URA_PCH state. URA-ID 1 shall be in the list of URA-ID.
1			Void	
1a		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
1b		←	PAGING TYPE 1	Include IE "BCCH modification info"
1c		→	URA UPDATE	IE "URA update cause" shall be set to "periodical URA update".
1d		←	URA UPDATE CONFIRM	

2a			SS configures its downlink transmission power settings according to columns "T1" in table 8.3.2.4 so that the UE detects that it is out of service area.
2b			SS waits (T305+T307)+10% for UE to enter idle mode.
3			Upon the expiry of timer T305, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that URA UPDATE message is not transmitted.
4			After the expiry of timer T307, the UE enters idle state. SS configures its downlink transmission power settings according to columns "T0" in table 8.3.2.48.3.1.10 so that the cell is suitable for camping. SS waits for 15 <u>30</u> s.
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

MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2
Scheduling information - PLMN Value tag	- Scheduling info for System Information Type 1 2
Scheduling information - Cell Value tag	- Scheduling info for System Information Type 3 2
Scheduling information - Cell Value tag	- Scheduling info for System Information Type 4 2

SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

PAGING TYPE 1 (Step 1b)

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

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2
BCCH modification time	Not present

UTRAN MOBILITY INFORMATION (Step 0a)

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

Information Element	Value/remark
- T305	5 minutes

UTRAN MOBILITY INFORMATION CONFIRM (Step 0b)

Use the same message sub-type found in clause 9 of TS 34.108.

URA UPDATE (Step 1c)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to "periodical URA update"

8.3.2.4.5 Test requirement

After step 0a the UE shall respond with UTRAN MOBILITY INFORMATION CONFIRM message.

After step 2 the UE shall not transmit any URA UPDATE message on the uplink CCCH.

<End of next modified section>

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

Tdoc **R5-050754**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1165 ⌘ 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:	⌘ CR to 34.123-1: Correction to GCF WI-012 RRC test case 8.3.1.30.		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 18/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ <ol style="list-style-type: none"> 1. After expiry of T314, the UE releases all its radio bearers associated with T314 (i.e RB 10, 11 & 12). The purpose of the cell update confirm message is to restore the radio link and provide the configuration for 64K PS configuration. If the IEs UL/DL transport channel information common for all transport channel are not included, then the UE would use the stored transport channel information (from RAB setup procedure). In order to provide the configuration for 64k PS and to remove redunant TFCS it is proposed to include IEs UL/DL transport channel information common for all transport channel. 2. According to 25.331 sec8.6.5.5 & 8.6.5.6 :” UE stores the UL/DL transport channel configuration until it is explicitly deleted by a message containing the IE "Deleted UL/DL TrCH information" or the UE leaves RRC connected mode". Since the CS Bearer are released it is proposed to send Deleted DL TrCH information to delete the UL/DL transport channel configuration 3. Since the Transport Channel parameters are modified in the cell update confirm message the UE would send a Transport Channel Reconfiguration complete message.
Summary of change:	⌘ <ol style="list-style-type: none"> 1. Included the IEs UL/DL transport channel information common for all transport channel

	<p>2. Incldued IEs Deleted UL/DL TrCH information</p> <p>3. Replaced Physical Channel Reconfiguration message by Transport Channel reconfiguration message</p>
Consequences if not approved:	⌘ The prose could be misleading

Clauses affected:	⌘ 8.3.1.30.4												
Other specs affected:	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> <td>Other core specifications</td> </tr> <tr> <td></td> <td>X</td> <td>Test specifications</td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> </tr> </tbody> </table>	Y	N			X	Other core specifications		X	Test specifications		X	O&M Specifications
Y	N												
	X	Other core specifications											
	X	Test specifications											
	X	O&M Specifications											
Other comments:	⌘ No impact to 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.

8.3.1.30 Cell Update: Radio Link Failure (T314>0, T315>0), PS RAB

8.3.1.30.1 Definition

8.3.1.30.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

...

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

...

2> if the stored value of the timer T314 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":

4> start timer T314.

3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":

4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

4> start timer T315.

...

Upon expiry of timer T314 the UE shall:

1> if timer T302 is running:

...

1> if timer T302 is not running and timer T315 is running:

- 2> set IE "T314 expired" in variable RB_TIMER_INDICATOR to TRUE;
 - 2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";
 - 2> indicate release of those radio access bearers to upper layers;
 - 2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.
- 1> if timers T302 and T315 are not running:
- 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - 2> clear the variable PDCP_SN_INFO;
 - 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - 2> release all its radio resources;
 - 2> indicate release (abort) 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;
 - 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 2> clear the variable ESTABLISHED_RABS;
 - 2> set the variable CELL_UPDATE_STARTED to FALSE;
 - 2> enter idle mode;
 - 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - 2> and the procedure ends.

Upon expiry of timer T315 the UE shall:

- 1> if timer T302 is running:
- ...
- 1> if timer T302 is not running and timer T314 is running:
- 2> set IE "T315 expired" in variable RB_TIMER_INDICATOR to TRUE;
 - 2> release locally all radio bearers which are associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "use T315";
 - 2> indicate release of those radio access bearers to upper layers;
 - 2> delete all information about those radio access bearers from the variable ESTABLISHED_RABS.
- 1> if timers T302 and T314 are not running:
- 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - 2> clear the variable PDCP_SN_INFO;
 - 2> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - 2> release all its radio resources;

- 2> indicate release (abort) 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;
- 2> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- 2> clear the variable ESTABLISHED_RABS;
- 2> set the variable CELL_UPDATE_STARTED to FALSE;
- 2> enter idle mode;
- 2> other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
- 2> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.30.3 Test purpose

1. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T314 and try to find a new cell after detecting that a radio link failure has occurred. (This test purpose is only applicable when CS RAB is set up in the initial condition.)
3. To confirm that the UE enters idle mode after T315 expires and T302 and T314 are not running.

8.3.1.30.4 Method of test

Initial Condition

System Simulator: 1 cell (Cell 1 is active).

UE: PS_DCCH+DTCH_DCH (state 6-10 or PS+CS-DCCH+DTCH_DCH (state 6-14), if UE supports both CS and PS domains.

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled “System Information Block type 1 (supported PLMN type is GSM-MAP)” as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T314	12
- T315	30

Test Procedure

Table 8.3.1.30

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

The UE is brought to CELL_DCH state after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column 'T1' in table 8.3.1.30. The UE shall detect a radio link failure in cell 1.

Case A (the initial condition of the UE is in state 6-10):

The SS shall wait for 34.17s (see Note 2) and then configure its downlink transmission power settings according to column 'T0' in table 8.3.1.30. The UE shall release radio bearer associated with T315 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 1.

Case B (the initial condition of the UE is in state 6-14):

The SS shall wait for 13.67s (see Note 1) and then configure its downlink transmission power settings according to column 'T0' in table 8.3.1.30. The UE shall release radio bearer associated with T314 and attempt to re-select to cell 1. After that, it shall then enter CELL_FACH state and transmit CELL_UPDATE on the uplink CCCH to SS. The SS transmits CELL_UPDATE CONFIRM message which includes dedicated physical channel [and transport channel](#) parameters on downlink DCCH. Then the UE shall transmit a ~~PHYSICAL~~ [TRANSPORT](#) CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS transmits COUNTER CHECK message to UE. UE shall transmit a COUNTER CHECK RESPONSE message back to SS. Then SS configures its downlink transmission power settings according to column 'T1' in table 8.3.1.30. The UE shall detect a radio link failure in cell 1. The SS shall wait for 34.17s (see Note 2) and then configure its downlink transmission power settings according to column 'T0' in table 8.3.1.30. The UE shall release radio bearer associated with T315 and enter idle mode state. SS calls for generic procedure C.1 to check that UE is in Idle Mode state in cell 1.

NOTE 1: Considering the timer tolerance of the UE, T314 may expire between $12s \pm 0.3s$, therefore the SS must wait for at least 12.3s before it reconfigures its downlink transmission power. Since SS has a timer tolerance of 10% or $2 * TTI + 55ms$ (consider the greater value of the two), the test case shall set the SS to reconfigure the power level 13.67s after the SS configures the power settings according to column 'T1' in table 8.3.1.30.

NOTE 2: Considering the timer tolerance of the UE, T315 may expire between $30s \pm 0.75s$, therefore the SS must wait for at least 30.75s before it reconfigures its downlink transmission power. Since SS has a timer tolerance of 10% or $2 * TTI + 55ms$ (consider the greater value of the two), the test case shall set the SS to reconfigure the power level 34.17s after the SS configures the power settings according to column 'T1' in table 8.3.1.30.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures cell 1 according to column 'T1' in table 8.3.1.30.
2				For Case A, go to step 9. SS waits for 13.67s after the completion of step 1 and then configures cell 1 according to column 'T0' in table 8.3.1.30.
3		→	CELL UPDATE	UE shall select cell 1 and enter CELL_FACH state to transmit this message
4		←	CELL UPDATE CONFIRM	See message content.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE <u>TRANSPORT CHANNEL RECONFIGURATION COMPLETE</u>	
6		←	COUNTER CHECK	SS sent the COUNT-C info for the RBs that were established in the initial condition.
7		→	COUNTER CHECK RESPONSE	
8				SS configures cell 1 according to column 'T1' in table 8.3.1.30.
9				SS waits for 34.17s after the completion of step 1 and then configures cell 1 according to column 'T0' in table 8.3.1.30.
10		↔	CALL C.1	SS execute this procedure in cell 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

CELL UPDATE (Step 4)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- S-RNTI	Check to see if set to value assigned in cell 1.
- SRNC Identity	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	TRUE
- T315 expired	FALSE

CELL UPDATE CONFIRM (Step 5)

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

Information Element	Value/remark
RRC State indicator	CELL_DCH
UL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Deleted UL TrCH Information	
- Uplink transport channel type	DCH
- Transport channel identity	1
Deleted UL TrCH Information	
- Uplink transport channel type	DCH
- Transport channel identity	2
Deleted UL TrCH Information	
- Uplink transport channel type	DCH
- Transport channel identity	3
DL Transport channel information common for all transport channel	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Deleted DL TrCH information	
- Downlink transport channel type	DCH
- Transport channel identity	6
Deleted DL TrCH Information	
- Downlink transport channel type	DCH
- Transport channel identity	7
Deleted DL TrCH Information	
- Downlink transport channel type	DCH
- Transport channel identity	8
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A4.

COUNTER CHECK (Step 7)

Information Element	Value/remark
Message Type	0 Calculated value
RRC transaction identifier	
Integrity check info	
RB COUNT-C MSB information	
- RB identity	
- COUNT-C MSB uplink	Set to the RB identity that was set up in the initial condition and support PS service.
- COUNT-C MSB downlink	Set to the value stored in the SS

COUNTER CHECK RESPONSE (Step 8)

Information Element	Value/remark
Message Type	0 Not checked Not present
RRC transaction identifier	
Integrity check info	
RB COUNT-C information	

8.3.1.30.5 Test requirement

Case A:

After step 2, the UE shall detect the presence of cell 1 and enter idle mode state in cell 1.

Case B:

After step 2, the UE shall detect the presence of cell 1, perform cell re-selection and transmit a CELL UPDATE message.

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

After step 7, the UE shall transmit a COUNTER CHECK RESPONSE message without including IE “RB COUNT-C information”.

After step 10, the UE shall detect the presence of cell 1 and enter idle mode state in cell 1.

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

Tdoc **R5-050784**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1166 ⌘ 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 8.3.1.18 (WI-010)		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 22/04/05
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change: ⌘

1. After the UE has selected Cell 2 in step 7 it will send a CELL UPDATE message. Due to the radio link failure the IE "AM_RLC error indication (RB2, RB3 or RB4)" will be set to "TRUE". This is not consistent with the default CELL UPDATE message and need to be reflected by the specific message content for the CELL UPDATE message in step 7.
2. When the SS configures the cells according to table 8.3.1.18 this cause a measurement report to be triggered. To avoid that the SS need to handle that the UE might perform a RLC reset procedure due to MaxDAT re-transmissions happens before the radio link failure is detected then T313 need to be decreased.
3. There are two instances of specific message content for SIB1. One in the initial conditions and one after the expected sequence table. The two table need to be merged.





Summary of change: ⌘

1. IE "AM_RLC error indication (RB2, RB3 or RB4)" set to not checked in the Cell Update message for step 7.
2. T313 in SIB1 set to 2 seconds
3. Merging the table content of the specific message content for SIB1 under initial conditions to the table after the expected sequence table.

TTCN impact:


- Change 1 is an alignment with TTCN CR in R5s050093.
- Change 2 is an alignment with TTCN CR in R5s050117.
- Change 3: no TTCN impact

Consequences if not approved: ⌘ Test case may fail compliant UE.

Clauses affected:		8.3.1.18										
Other specs affected:		<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	
		Y	N									
			X									
	X											
	X											
		Test specifications										
		O&M Specifications										
Other comments:		Affects R99, Rel4 and Rel5 UEs.										

How to create CRs using this form:

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8.3.1.18 Cell Update: Radio Link Failure (T314>0, T315=0), CS RAB established

8.3.1.18.1 Definition

8.3.1.18.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

2> if the UE is in CELL_DCH state and the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

...

2> if the stored value of the timer T314 is equal to zero:

...

2> if the stored value of the timer T315 is equal to zero:

3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";

3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.

2> if the stored value of the timer T314 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":

4> start timer T314.

3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":

4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

...

- 2> for the released radio bearer(s):
 - 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
 - 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;
 - 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
 - 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> set the variable CELL_UPDATE_STARTED to TRUE;
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to TS 25.331 subclause 8.5.17;
 - 2> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;
 - 2> use the transport format set given in system information as specified in TS 25.331 subclause 8.6.5.1.
- 1> if the UE performs cell re-selection:
 - 2> clear the variable C_RNTI; and
 - 2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.
- 1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;
- 1> in case of a cell update procedure:
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH.
- 1> set counter V302 to 1;
- 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

...

If the received CELL UPDATE CONFIRM message would cause the UE to transit to CELL_DCH state:

- 1> if the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message according to the criteria defined in subclause 8.5.4 in TS 25.331 are not fulfilled; or

...

the UE shall:

...

- 1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> if V302 is equal to or smaller than N302:

- 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "Radio link failure";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:

...

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.7a

8.3.1.18.3 Test purpose

1. To confirm that the UE shall try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE performs a cell selection procedure when it fails to configure the physical channel(s) indicated in the CELL UPDATE CONFIRM message.

8.3.1.18.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and cell 2 are active).
 SYSTEM INFORMATION BLOCK TYPE 1 (see specific message contents).
 UE: CS_DCCH+DTCH_DCH (state 6-9).

~~Specific Message Content~~

~~For SIB type 1 message to be transmitted throughout the test, use the message titled "System Information Block type 1 (supported PLMN type is GSM-MAP)" as found in TS 34.108 clause 6, with the following exception:~~

Information Element	Value/remark
T315	0

Test Procedure

Table 8.3.1.18

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

Table 8.3.1.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions. The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.18. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 2. After that, it shall transmit CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes dedicated transport and physical channel parameters on downlink DCCH. SS shall not configure according to this message. Instead, SS configures its downlink transmission power settings according to column "T0" in table 8.3.1.18. UE shall fail to establish the dedicated channel in cell 2.

UE shall re-select to cell 1 and transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure". Then SS responds with a CELL UPDATE CONFIRM message on downlink DCCH. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

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			Void	
1			Void	
2			Void	
3			Void	
4				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.18. SS starts to listen to the uplink CCCH of cell 2.
5			Void	
6				The UE detects the radio link failure.
7		→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
8		←	CELL UPDATE CONFIRM	Including dedicated physical channel parameters.
9				SS does not configure according to the message in step 8. SS configures cell 1 and 2 according to column "T0" in table 8.3.1.18.
10		→	CELL UPDATE	UE shall select cell 1 and transmit this message
11		←	CELL UPDATE CONFIRM	See message content.
12		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

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 titled "[System Information Block type 1 \(supported PLMN type is GSM-MAP\)](#)", with the following exceptions:

Information Element	Value/remark
- UE Timers and constants in connected mode	
- T312	2
<u>- T313</u>	<u>2</u>
<u>- T315</u>	<u>0</u>

CELL UPDATE (Step 7)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
<u>AM RLC error indication (RB2, RB3 or RB4)</u>	<u>Not checked</u>
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

CELL UPDATE CONFIRM (Step 8 and 11)

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

Information Element	Value/remark
RRC State indicator	CELL_DCH
UL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
DL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.

CELL UPDATE (Step 10)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
Failure cause	This IE is not Checked.
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

8.3.1.18.5 Test requirement

After step 6, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

After step 9, the UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure".

After step 11, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

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

Tdoc **R5-050790**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1167 ⌘ 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 cases 8.3.4.1, 8.3.4.2 (P1), 8.3.4.8 (WI-12), 8.3.4.4, 8.3.4.5 (Low priority)		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 13/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) 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. 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" at appropriate steps in these test cases.
Consequences if not approved:	⌘ Prose will be incorrect

Clauses affected:	⌘ 8.3.4.1.4, 8.3.4.2.4, 8.3.4.4.4, 8.3.4.5.4 and 8.3.4.8.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N										
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<input checked="" type="checkbox"/>	<input type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
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.

8.3.4.1 Active set update in soft handover: Radio Link addition

8.3.4.1.1 Definition

8.3.4.1.2 Conformance requirement

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLCs indicated in the IE "Radio Link Addition Information";
- 1> perform the physical layer synchronisation procedure B as specified in TS 25.214;
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronization B, specified in TS 25.214;

...

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.1.3 Test purpose

1. To confirm that the UE continues to communicate with the SS on both the additional radio link and an already existing radio link after the radio link addition.

8.3.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 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 8.3.4.1

Parameter	Unit	Cell 1				Cell 2			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 1			
CPICH Ec	dBm/3.84 MHz	-60	-60	OFF	-60	-75	-60	-60	OFF

Table 8.3.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

Initially, the UE goes to connected mode and establishes a radio access bearer in CELL_DCH state in cell 1.

SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.1. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS configures the new radio link to be added from cell 2 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID).

When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC without waiting for the physical channel synchronisation B.

SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.1. UE shall not detect the DPCH from cell 1 but continue to communicate through the another DPCH from cell 2. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 1.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

The SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.1. UE shall detect DPCH from cell 1, but not detect the DPCH from cell 2, but continue to communicate through DPCH from cell 1. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 2.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1. The UE shall transmit a UE CAPABILITY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message. 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				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.1.
2	→		MEASUREMENT REPORT	See specific message contents for this message

3	←	ACTIVE SET UPDATE	SS transmits this message in cell 1 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID in cell 2)
4	→	ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link to cell 2, without interfering with existing connections on the radio link in cell 1.
5			SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.1
5a	→	MEASUREMENT REPORT	See specific message contents for this message
6	←	UE CAPABILITY ENQUIRY	Use default message.
7	→	UE CAPABILITY INFORMATION	Use default message.
8	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
9		Void	
9a		Void	
10			SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.1
10a	→	MEASUREMENT REPORT	See specific message contents for this message
11	←	UE CAPABILITY ENQUIRY	Use default message.
12	→	UE CAPABILITY INFORMATION	Use default message.
13	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
14	↔	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

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	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108
- 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

Next Modified Section

8.3.4.2 Active set update in soft handover: Radio Link removal

8.3.4.2.1 Definition

8.3.4.2.2 Conformance requirement

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure B as specified in TS 25.214;
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronization B, specified in TS 25.214;

...

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.2.3 Test purpose

1. To confirm that the UE continues to communicate with the SS on the remaining radio link after radio link removal on the active set.
2. To confirm that the UE is not using the removed radio link to communicate with the SS.

8.3.4.2.4 Method of test

Initial Condition

System Simulator: 2 cells - both Cell 1 and Cell 2 are active

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

Test Procedure

Table 8.3.4.2

Parameter	Unit	Cell 1				Cell 2			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 1			
CPICH Ec	dBm/3.84MHz	-60	-60	-75	-60	-75	-60	-60	OFF

Table 8.3.4.2 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE goes to connected mode and establishes a radio access bearer service in the CELL_DCH state in cell 1.

SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.2. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS configures the new radio link to be added from cell 2 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID).

When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.2. UE shall transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 1 according to IE "Intra-frequency event identity", which is set to '1b' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS remove the radio link from cell 1 and then SS transmits an ACTIVE SET UPDATE

message, which includes IE "Radio Link Removal Information" and specifying the P-CPICH information of the cell to be removed.

When the UE receives this message, the UE RRC entity shall request UE L1 entity to terminate transmission and reception of the radio link from cell 1. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.2 so as to generate a radio link failure condition. The UE shall detect the radio link failure UE shall re-select to cell 1 and transmit a CELL UPDATE message. SS transmits a CELL UPDATE CONFIRM message after it receive CELL UPDATE message from UE. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities..

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				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.2
2		→	MEASUREMENT REPORT	See specific message contents for this message
3		←	ACTIVE SET UPDATE	SS transmits this message in cell 1 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID in cell 2)
4		→	ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link to cell 2, without interfering with existing connections on the radio link in cell 1.
5				SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.2
6		→	MEASUREMENT REPORT	See specific message contents for this message
7		←	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE "Radio Link Removal Information".
8		→	ACTIVE SET UPDATE COMPLETE	The UE shall remove the radio link associated with cell 1.
9		←	UE CAPABILITY ENQUIRY	Use default message.

10	→	UE CAPABILITY INFORMATION	Use default message.
11	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
12			SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.2
13	→	CELL UPDATE	UE sends this message in cell 1.
14	←	CELL UPDATE CONFIRM	See message content.
15	→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in Annex.A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108
- 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

Next Modified Section

8.3.4.4 Active set update in soft handover: Invalid Configuration

8.3.4.4.1 Definition

8.3.4.4.2 Conformance requirement

If any of the following conditions are valid:

...

- a radio link in the IE "Radio link addition information" is also present in the IE "Radio Link Removal Information"; and/or

...

- the variable INVALID_CONFIGURATION is set to TRUE:

the UE shall:

- 1> keep the active set as it was before the ACTIVE SET UPDATE message was received;
- 1> transmit an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC;
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE FAILURE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> set the IE "failure cause" to "Invalid configuration";
- 1> When the ACTIVE SET UPDATE FAILURE message has been submitted to lower layers for transmission:
 - 2> the procedure ends on the UE side.

Reference

3GPP TS 25.331 clause 8.3.4.5

8.3.4.4.3 Test purpose

1. To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC, if the received ACTIVE SET UPDATE message includes a radio link which is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information".

8.3.4.4.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 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 8.3.4.4

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-60	-75	-60

Table 8.3.4.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.4. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. SS then transmits an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the same primary scrambling code in IE "Primary CPICH Info" of both IE "Radio Link Addition Information" and IE "Radio Link Removal Information". When the UE receives this message, it transmits an ACTIVE SET UPDATE FAILURE message which is set to "Invalid configuration" in IE "failure cause" on the uplink DCCH using AM RLC to the SS. UE then send another MEASUREMENT REPORT to SS 4s after step 2. 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				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.4
2	→		MEASUREMENT REPORT	
3		←	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes the same primary scrambling code in IE "Primary CPICH Info" of both IE "Radio Link Addition Information" and IE "Radio Link Removal Information".
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "Invalid configuration" in IE "failure cause".
5	→		MEASUREMENT REPORT	
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

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information - Primary CPICH Info - Primary Scrambling Code	Set to same code as assigned for cell 2

- Downlink DPCH info for each RL	FDD
- CHOICE mode	P-CPICH can be used.
- Primary CPICH usage for channel estimation	Calculated value from Cell synchronisation information
- DPCH frame offset	Not Present
- Secondary CPICH info	This IE is repeated for all existing downlink DPCHs allocated to the UE
- DL channelisation code	1
- Secondary scrambling code	Reference TS 34.108 clause 6.10
- Spreading factor	Parameter set
- 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
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Integrity check info	Not Checked
Failure cause	Check to see if it's set to 'Invalid configuration'

8.3.4.4.5 Test requirement

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

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message, setting "Invalid configuration" in IE "failure cause" and sent on the uplink DCCH using AM RLC.

After step 4 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC, 4s after step 2.

Next Modified Section

8.3.4.5 Active set update in soft handover: Reception of an ACTIVE SET UPDATE message in wrong state

8.3.4.5.1 Definition

8.3.4.5.2 Conformance requirement

If the UE is in another state than CELL_DCH state upon reception of the ACTIVE SET UPDATE message, the UE shall perform procedure specific error handling as follows. The UE shall:

- 1> transmit a ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC;
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE FAILURE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> set the IE "failure cause" to the cause value "protocol error";
- 1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state";
- 1> when the ACTIVE SET UPDATE FAILURE message has been delivered to lower layers for transmission:
 - 2> continue with any ongoing processes and procedures as if the ACTIVE SET UPDATE message has not been received;
 - 2> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.4.0

8.3.4.5.3 Test purpose

1. To confirm that the UE transmit an ACTIVE SET UPDATE FAILURE message when it receives an ACTIVE SET UPDATE message in any state other than CELL_DCH.

8.3.4.5.4 Method of test

Initial Condition

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

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

Test Procedure

Table 8.3.4.5

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Ch. 1	Ch. 1
CPICH Ec	dBm/3.84 MHz	-60	-70

Table 8.3.4.5 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE establishes a radio access bearer service in the CELL_FACH state in cell 1. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" indicating the addition of cell 2 into the active set. When the UE receives this message, UE shall transmit ACTIVE SET UPDATE FAILURE message, with the IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state", on the uplink DCCH using AM RLC. UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS calls for generic procedure C.2 to check that UE is in CELL_FACH 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		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
2			Void	
3		←	ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information".
4		→	ACTIVE SET UPDATE FAILURE	IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".
5		→	MEASUREMENT REPORT	
6		↔	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

ACTIVE SET UPDATE

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	Set to same code as assigned for cell 2
- Primary Scrambling Code	
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0
- 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	Reference TS 34.108 clause 6.10
- Code Number	Parameter set 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

8.3.4.5.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "Message not compatible with receiver state" shall be set in IE "Protocol Error Information".

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

Next Modified Section

8.3.4.8 Active set update in soft handover: Radio Link addition in multiple radio link environment

8.3.4.8.1 Definition

8.3.4.8.2 Conformance requirement

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified otherwise in the following. The UE shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> perform the physical layer synchronisation procedure B as specified in TS 25.214;
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronization B, specified in TS 25.214;

...

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.8.3 Test purpose

To confirm that the UE communicates with the SS on all radio link in the active set and keeps the connection when some of the radio links are faded out.

8.3.4.8.4 Method of test

Initial Condition

System Simulator: 4 cells - Cell 1, 2, 3 and 7 are active. The chip-timing between the cells shall always be within ± 148 chip.

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 8.3.4.8-1

Cell	UTRA RF Channel Number
Cell 1	Ch. 1
Cell 2	Ch. 1
Cell 3	Ch. 1
Cell 7	Ch. 1

Table 8.3.4.8-2

Parameter	Unit	Time							
		T0	T1	T2	T3	T4	T5	T6	T7
Cell 1 CPICH Ec	dBm/3.84MHz	-60	-60	-60	-60	-75	-75	-75	-60
Cell 2 CPICH Ec	dBm/3.84MHz	-75	-60	-60	-60	-60	-75	-75	-75
Cell 3 CPICH Ec	dBm/3.84MHz	-75	-75	-60	-60	-60	-60	-75	-75
Cell 7 CPICH Ec	dBm/3.84MHz	-75	-75	-75	-60	-60	-60	-60	-75

Table 8.3.4.8-1 defines the UTRA RF Channel Number for the different cells. Table 8.3.4.8-2 illustrates the downlink power to be applied for the 4 cells at various time instants of the test execution.

Initially, the UE goes to connected mode and establishes a radio access bearer in CELL_DCH state in cell 1.

SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.8-2. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2, according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS configures the new radio link to be added from cell 2 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID).

When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC without waiting for the physical channel synchronisation B.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1 and cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.8-2. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 3, according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS configures the new radio link to be added from cell 3 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 and cell 2 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID).

When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC without waiting for the physical channel synchronisation B.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1, cell 2 and cell 3. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.8-2. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 7, according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS configures the new radio link to be added from cell 7 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1, cell 2 and cell 3 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID).

When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC without waiting for the physical channel synchronisation B.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1, cell 2, cell 3 and cell 7. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T4" in table 8.3.4.8-2. The UE shall continue to communicate through at least cell 2, cell 3 and cell 7. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 1.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2, cell 3 and cell 7. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T5" in table 8.3.4.8-2. The UE shall continue to communicate through at least cell 3 and cell 7. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 2.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 3 and cell 7. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

SS configures its downlink transmission power settings according to columns "T6" in table 8.3.4.8-2. The UE shall continue to communicate through at least cell 7. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 3.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 7. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM.

SS configures its downlink transmission power settings according to columns "T7" in table 8.3.4.8-2. The UE shall continue to communicate through at least cell 1. The UE shall transmit a MEASUREMENT REPORT message which indicates the event '1b' for cell 7.

SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1. The UE shall transmit a UE CAPABILITY ENQUIRY

INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

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				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.8-2.
2		→	MEASUREMENT REPORT	See specific message contents for this message (event '1a' for cell 2)
3		←	ACTIVE SET UPDATE	SS transmits this message in cell 1 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio link with Primary CPICH info used for the reference ID in cell 2)
4		→	ACTIVE SET UPDATE COMPLETE	The UE shall configure new radio link to cell 2 without interfering with existing connections on the radio link in cell 1.
5		←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 1 and cell 2.
6		→	UE CAPABILITY INFORMATION	Use default message.
7		←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
8				SS configures its downlink transmission power settings according to columns "T2" in table 8.3.4.8-2.

9	→	MEASUREMENT REPORT	See specific message contents for this message (event '1a' for cell 3)
10	←	ACTIVE SET UPDATE	SS transmits this message in cell 1 and cell 2 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio link with Primary CPICH info used for the reference ID in cell 3)
11	→	ACTIVE SET UPDATE COMPLETE	The UE shall configure new radio link to cell 3 without interfering with existing connections on the radio links in cell 1 and cell 2.
12	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 1, cell 2 and cell 3.
13	→	UE CAPABILITY INFORMATION	Use default message.
14	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
15			SS configures its downlink transmission power settings according to columns "T3" in table 8.3.4.8-2.

16	→	MEASUREMENT REPORT	See specific message contents for this message (event '1a' for cell 7)
17	←	ACTIVE SET UPDATE	SS transmits this message in cell 1, cell 2 and cell 3 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio link with Primary CPICH info used for the reference ID in cell 7)
18	→	ACTIVE SET UPDATE COMPLETE	The UE shall configure new radio link to cell 7 without interfering with existing connections on the radio links in cell 1, cell 2 and cell 3.
19	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 1, cell 2, cell 3 and cell 7.
20	→	UE CAPABILITY INFORMATION	Use default message.
21	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
22			SS configures its downlink transmission power settings according to columns "T4" in table 8.3.4.8-2.
23	→	MEASUREMENT REPORT	See specific message contents for this message (event '1b' for Cell 1)
24	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 2, cell 3 and cell 7.
25	→	UE CAPABILITY INFORMATION	Use default message.
26	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
27			SS configures its downlink transmission power settings according to columns "T5" in table 8.3.4.8-2.
28	→	MEASUREMENT REPORT	See specific message contents for this message (event '1b' for Cell 2)
29	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 3 and cell 7.
30	→	UE CAPABILITY INFORMATION	Use default message.
31	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
32			SS configures its downlink transmission power settings according to columns "T6" in table 8.3.4.8-2.
33	→	MEASUREMENT REPORT	See specific message contents for this message (event '1b' for Cell 3)
34	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 7.
35	→	UE CAPABILITY INFORMATION	Use default message.

36	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
37			SS configures its downlink transmission power settings according to columns "T7" in table 8.3.4.8-2.
38	→	MEASUREMENT REPORT	See specific message contents for this message (event '1b' for cell 7)
39	←	UE CAPABILITY ENQUIRY	Use default message. Sent on cell 1.
40	→	UE CAPABILITY INFORMATION	Use default message.
41	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
42	↔	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

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	Cell 2
- Primary CPICH Info	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1 of TS 34.108
- Primary Scrambling Code	
- Downlink DPCH info for each RL	FDD P-CPICH can be used.
- CHOICE mode	
- Primary CPICH usage for channel estimation	Calculated value from Cell synchronisation information
- DPCH frame offset	
- 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 (Step 10)

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	Cell 3
- Primary CPICH Info	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1 of TS 34.108
- Primary Scrambling Code	
- Downlink DPCH info for each RL	FDD P-CPICH can be used.
- CHOICE mode	
- Primary CPICH usage for channel estimation	Calculated value from Cell synchronisation information
- DPCH frame offset	
- 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 (Step 17)

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	Cell 7
- Primary CPICH Info	Refer to clause titled "Default settings for cell No.7 (FDD)" in clause 6.1 of TS 34.108
- Primary Scrambling Code	
- Downlink DPCH info for each RL	FDD P-CPICH can be used.
- CHOICE mode	
- Primary CPICH usage for channel estimation	Calculated value from Cell synchronisation information
- DPCH frame offset	
- 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

- Code Number	"Typical radio parameter sets" 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

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

Tdoc **R5-05xxxx**
 Agenda 8.8.3.3

CR-Form-v7

CHANGE REQUEST

34.123-1 CR 1168 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 GCF WI-010 (P4) approved test case 8.3.7.5		
Source:	3GPP TSG RAN WG5 (Testing)		
Work item code:	TEI	Date:	25/04/2005
Category:	F	Release:	Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change: Inter-RAT cells are added to the CELL_INFO_LIST in Measurement Control message in step 1c without removing any cells. In steps 1d and 5a, UE is expected to only report inter-RAT cells added in Measurement Control message without considering the inter-RAT cells present in SIB 11. This is not conformant to the core spec. SIB 11 is broadcast with contents as per 34.108, clause 6.1.0b condition A3, 2 cells with cell id's 9 and 10 included. TTCN implementation maps these cells to cell id's 1 and 2. UE enters connected mode CELL_DCH at step 1. At this point the UE does stop monitoring inter-RAT cells. At step 1c the UE receives a measurement control that commands the UE to start monitoring inter-RAT cells. This measurement control that does not remove any cells from the CELL_INFO_LIST but re-adds same cells as in SIB 11 but with cell ids 0 and 1. The rules for managing the CELL_INFO_LIST are described in 25.331 section 8.6.7.3. There is no requirement for the UE to clear the contents of cell info list at transition from idle/CELL_FACH to CELL_DCH state. The only requirement for clearing the CELL_INFO_LIST is when explicitly commanded to 'remove all cells' or on reading SIB11 which occurs when camping on a cell (at cell change in idle/PCH/FACH state or when leaving DCH state) or when the contents of SIB11 change. UE is neither commanded to remove cells or SIB 11 contents have been changed here. With the current TTCN implementation, UE should have 3 cells in its cell info list with ID's 0, 1 and 2 (with cells 1 and 2 exactly same) and hence should report 3 cells in the measurement

reports. The current test sequence expects UE to report 2 cells, thus failing a conformant UE.

Summary of change: ☹ In message contents of Measurement Control message in step 1c, Choice 'Inter Rat Cell Removal' is changed from 'Remove no inter-RAT cells' to 'Remove all inter-RAT cells'.

Consequences if not approved: ☹ Test case will fail a conformant UE

Clauses affected: ☹ 8.3.7.5

Other specs affected:	☹	<input type="checkbox"/> Y	<input type="checkbox"/> N	Other core specifications	☹	34.123-3(TTCN)	
		<input checked="" type="checkbox"/> X	<input type="checkbox"/>				Test specifications
		<input type="checkbox"/>	<input checked="" type="checkbox"/> X				O&M Specifications

Other comments: ☹ This CR applies to R99 & later releases. Corresponding TTCN changes 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.

8.3.7.5 Inter system handover from UTRAN/To GSM/Speech/Failure

8.3.7.5.1 Definition

8.3.7.5.2 Conformance requirement

If the UE does not succeed in establishing the connection to the other target radio access technology, it shall

1> revert back to the UTRA configuration;

1> establish the UTRA physical channel(s) used at the time for reception of HANDOVER FROM UTRAN COMMAND;

...

transmit the HANDOVER FROM UTRAN FAILURE message 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 HANDOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "Inter-RAT handover failure" to "physical channel failure".

1> When the HANDOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:

2> the procedure ends.

Reference(s)

TS 25.331 Clause 8.3.7.5.

8.3.7.5.3 Test purpose

To test that the UE reactivates the old configuration and uses this to transmit a HANDOVER FROM UTRAN FAILURE message to the network including IE "Inter-RAT Handover failure cause" which is set to "physical channel failure", when it receives an HANDOVER FROM UTRAN COMMAND and the connection to GSM for handover can not be established.

To verify that after the handover failure the UE resumes previously configured compressed mode patterns and measurements.

8.3.7.5.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 clause 40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9.

UE: Idle state (state 2 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM FR,
- UE supports UTRAN AMR,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480, GSM-PCS
- UE supports compressed mode (FDD only).

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS brings the UE into call active state (CC state U10) with AMR. If the UE requires compressed mode (refer ICS/IXIT), the SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message indicating two GSM cells of which only one is actually configured. This message is used to provide measurement control parameters (GSM RSSI) to the UE and to start compressed mode for the measurement if required according to the UE capabilities. The UE replies according to request by sending RRC: MEASUREMENT REPORT messages periodically to SS (reporting period is 4000 ms). The SS sends a HANDOVER FROM UTRAN COMMAND indicating a dedicated channel (not configured) of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The UE receives the command and configures itself accordingly but can not complete the handover. The SS checks that the handover is failed by checking that the UE transmits the HANDOVER FROM UTRAN FAILURE message to the SS using the old UTRAN configuration. After the handover failure, the UE re-activates compressed mode (if configured) and resumes periodic measurement reporting including sending MEASUREMENT REPORT messages periodically to SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into U10 state in UTRAN cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 1c.
1a	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
1b	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
1c	←		MEASUREMENT CONTROL	SS provides GSM RSSI measurement control parameters to UE. Compressed mode for GSM RSSI measurement is started if required as per UE capabilities.
1d	→		MEASUREMENT REPORT	UE reports measurement results of GSM RSSI measurement to SS.
3	←		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM FR which does not exist in the GSM cell.
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	→		HANDOVER FROM UTRAN FAILURE	The SS receives the message via the old UTRAN configuration.
5a	→		MEASUREMENT REPORT	The SS shall verify that the UE resumes periodic measurement reporting for GSM RSSI measurements

Specific message contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1a)

Use the same message sub-type as in TS 34.108 titled "Speech in CS", with the following exceptions:

Information Element	Value/remark
Downlink information common for all radio links	
- DPCH compressed mode info	1
- TGPSI	Deactivate
- TGPS Status Flag	Not present
- TGCFN	
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7

- TGL2	Not present
- TGD	Undefined
- TGPL1	12
- TGPL2	Not present
- RPP	Mode 0
- ITP	Mode 0
CHOICE UL/DL Mode	UL&DL or UL-only or DL-only (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TGPSI	2
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Initial BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	undefined
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 0
- ITP	Mode 0
CHOICE UL/DL Mode	UL&DL or UL-only or DL-only (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	128
- T Reconfirm abort	Not Present

MEASUREMENT CONTROL (Step 1c)

Information Element	Value/remark
Measurement Identity Measurement Command Measurement Reporting Mode - Measurement Reporting Transfer Mode - Periodic Reporting / Event Trigger Reporting Mode Additional measurements list CHOICE measurement type - inter-RAT measurement - inter-RAT measurement object list CHOICE Inter-RAT Cell Removal - New inter-RAT cells - inter-RAT cell id CHOICE Radio Access Technology - Cell individual offset - Cell selection and re-selection info - BSIC - Band indicator - BCCH ARFCN - inter-RAT cell id CHOICE Radio Access Technology - Cell individual offset - Cell selection and re-selection info - BSIC - Band indicator - BCCH ARFCN - Cell for measurement - inter-RAT measurement quantity - Measurement quantity for UTRAN quality estimate CHOICE system - Measurement quantity - Filter coefficient - BSIC verification required - inter-RAT reporting quantity UTRAN estimated quality CHOICE system - Observed time difference to GSM cell reporting indicator - GSM carrier RSSI reporting indicator - Reporting cell status CHOICE reported cell - Reported cells within active set or within virtual active set or of the other RAT - Maximum number of reported cells CHOICE report criteria - Periodical reporting criteria - Amount of reporting - Reporting interval Physical channel information elements - DPCH compressed mode status info - TGPS reconfiguration CFN - Transmission gap pattern sequence - TGPSI - TGPS status flag - TGCFN - TGPSI	15 Setup Acknowledged Mode RLC Periodical reporting Not Present Remove all inter-RAT cells Remove no inter-RAT cells 0 GSM 0 Not present Value set to correspond with HANDOVER COMMAND IEs seen in TS 51.010 clause 26.6.5.1 M=2 GSM/DCS-1800 or GSM/PCS-1900 (dependent on band used) Value the same as HANDOVER COMMAND in TS 51.010 clause 26.6.5.1 M=2 (dependant on band used) 1 GSM 0 Not present BSIC2 GSM/DCS-1800 or GSM/PCS-1900 (dependent on band used) Value according to the GSM band under test (see 3GPP 34.123-1 table 6.5 for details on the ARFCN) Not present Not present GSM GSM carrier RSSI 0 not required FALSE GSM FALSE TRUE 6 infinity 4000 If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present. (Current CFN + (256 – TTI/10msec))mod 256 1 Activate (Current CFN + (256 – TTI/10msec))mod 256 2

- TGPS status flag - TGCFN	Deactivate Not present
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MEASUREMENT REPORT, if the UE requires compressed mode (refer ICS/IXIT) (Step 1d and step 5a)

Information Element	Value/remark
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see HANDOVER COMMAND in TS 51.010 Clause 26.6.5.1 M=2)
- Observed time difference to GSM cell	Check that not present
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see 3GPP 34.123-1 table 6.5 for details on the ARFCN)
- Observed time difference to GSM cell	Check that not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

MEASUREMENT REPORT, if the UE doesn't requires compressed mode (refer ICS/IXIT) (Step 1d and step 5a)

Information Element	Value/remark
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
CHOICE BSIC	verified BSIC
- Inter-RAT cell id	Check that is set to 0
- Observed time difference to	Check that not present
GSM cell	
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see 3GPP 34.123-1 table 6.5 for details on the ARFCN)
- Observed time difference to	Check that not present
GSM cell	
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

HANDOVER FROM UTRAN COMMAND-GSM

The contents of this message is identical to the HANDOVER FROM UTRAN COMMAND-GSM message specified in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
Inter-system message - System type - Frequency Band - CHOICE GSM message - Message	GSM Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band" Single GSM message GSM HANDOVER COMMAND formatted as BIT STRING (1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1 and that the indicated target channel for GSM FR does not exist in the GSM cell

HANDOVER FROM UTRAN FAILURE

The contents of this message is identical to the HANDOVER FROM UTRAN FAILURE message specified in [9] TS 34.108 clause 9.

8.3.7.5.5 Test requirement

After step 4 the SS shall receive HANDOVER FROM UTRAN FAILURE message using the old UTRA configuration.

After step 5 the UE shall correctly report the GSM RSSI value.

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

Tdoc **R5-050926**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1169 ⌘ 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 8.3.7.13		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 10/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Handover Command message content is incorrect.
Summary of change:	⌘ In the message specific content for the HANDOVER COMMAND, the Channel Mode IE has been modified to "signalling only" because in this test case, the handover takes place before the call is established.
Consequences if not approved:	⌘ The prose will be incorrect and not align with TTCN.

Clauses affected:	⌘ 8.3.7.13.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N	⌘	X	⌘	X	⌘	X		
Y	N										
⌘	X										
⌘	X										
⌘	X										
Other comments:	⌘ Revision of R5-050568 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.

8.3.7.13 Inter system handover from UTRAN/To GSM/ success / call under establishment

8.3.7.13.1 Definition

8.3.7.13.2 Conformance requirement:

The UE shall be able to receive a HANOVER FROM UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target cell.

The UE shall:

- 1> establish the connection to the target radio access technology, by using the contents of the IE "Inter-RAT message". This IE contains a message specified in another standard, as indicated by the IE "System type", and carries information about the candidate/ target cell identifier(s) and radio parameters relevant for the target radio access technology. The correspondence between the value of the IE "System type", the standard to apply and the message contained within IE "Inter RAT message" is shown in the following:

Value of the IE "System type"	Standard to apply	Inter RAT Message
GSM	GSM TS 04.18, version 8.5.0 or later	HANOVER COMMAND
cdma2000	TIA/EIA/IS-2000 or later, TIA/EIA/IS-833 or later, TIA/EIQ/IS-834 or later	

- 1> if the IE "System type" has the value "GSM":

- 2> if the IE "Frequency band" has the value "GSM /DCS 1800 band used":

- 3> set the BAND_INDICATOR [45] to "ARFCN indicates 1800 band".

- 2> if the IE "Frequency band" has the value " GSM /PCS 1900 band used":

- 3> set the BAND_INDICATOR [45] to "ARFCN indicates 1900 band".

- 1> apply the "Inter RAT Message" according to the "standard to apply" in the table above.

- 1> if the IE "RAB information List" is included in the HANOVER FROM UTRAN COMMAND message:

- 2> if the IE "RAB information List" includes one IE "RAB Info" with the IE "CN domain Identity" set to "CS domain":

- 3> connect upper layer entities corresponding to the indicated CS domain RAB to the radio resources indicated in the inter-RAT message.

NOTE: In this version of the specification the maximum number of CS domain RABs which may be included in the IE "RAB information List" is limited to 1.

NOTE: Requirements concerning the establishment of the radio connection towards the other radio access technology and the signalling procedure are outside the scope of this specification.

....

Upon successfully completing the handover, UTRAN should:

- 1> release the radio connection; and

- 1> remove all context information for the concerned UE.

Upon successfully completing the handover, the UE shall:

- 1> if the USIM is present:

- 2> store the current START value for every CN domain in the USIM [50];

- 2> if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - 3> delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
 - 3> inform the deletion of these keys to upper layers.
- 1> if the SIM is present:
 - 2> store the current START value for every CN domain in the UE;
 - 2> if the "START" stored in the UE for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - 3> delete the ciphering and integrity keys that are stored in the SIM for that CN domain;
 - 3> inform the deletion of these keys to upper layers.
- 1> if there are any NAS messages with the IE "CN domain identity" set to "CS domain" for which the successful delivery of the INITIAL DIRECT TRANSFER message or UPLINK DIRECT TRANSFER message on signalling radio bearer RB3 or signalling radio bearer RB4 that have not yet been confirmed by RLC:
 - 2> retransmit those NAS messages to the network on the newly established radio connection to the target radio access technology.
- 1> clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

NOTE: The release of the UMTS radio resources is initiated from the target RAT.

Reference

3GPP TS 25.331 clause 8.3.7.3, 8.3.7.4

8.3.7.13.3 Test purpose

To test that the UE supporting both GSM and UTRAN performs handover from UTRAN to the indicated channel of GSM target cell when the UE receives a HANOVER FROM UTRAN COMMAND in call establishment phase.

To test that the UE continues the call in the GSM cell, after successful completion of the Handover.

8.3.7.13.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010-1 26.6.5.1 section 40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9.

UE : CC State U0 (NULL state) in cell 1.

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,
 UE supports GSM FR,
 UE supports UTRAN AMR,
 UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U0 (NULL) on cell 1.

Test Procedure

The SS activates the UTRAN cell and GSM Cell. The UE is triggered to initialise an MO speech call. During the call establishment phase, the SS is configured to not transmit the RLC Acknowledgment for SETUP message. SS configures a dedicated channel in GSM Cell, then sends

the UE an HANOVER FROM UTRAN COMMAND indicating the dedicated channel in the target GSM cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANOVER COMPLETE message to the SS in GSM cell. The SS checks MS correctly retransmits CC SETUP message, that was not acknowledged by UTRAN RLC Layer before the Handover, following completion of the handover to GSM cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			To trigger the UE to initialise an MO call
2	→		SETUP	SS does not Acknowledge it
3	SS			The SS starts the GSM cell and configure a dedicated channel SDCCH.
4	←		HANOVER FROM UTRAN COMMAND GSM	Send via the UTRA configuration and the message indicates: the dedicated channel SDCCH.
5	UE			The UE accepts the handover command and switches to the GSM dedicated channel specified in the HANOVER FROM UTRAN COMMAND-GSM
6	→		HANOVER ACCESS	The SS receives this burst on the dedicated channel of cell 9 (GSM cell) It implies that the UE has switched to GSM cell.
7	→		HANOVER ACCESS	
8	→		HANOVER ACCESS	
9	→		HANOVER ACCESS	
10	←		PHYSICAL INFORMATION	
11			Void	
12			Void	
13	→		HANOVER COMPLETE	The SS receives the message on the dedicated channel of GSM cell.
14	->		SETUP	The SS receives the message on the dedicated channel of GSM cell.
15	<-		CHANNEL RELEASE	

Specific message contents

HANOVER FROM UTRAN COMMAND-GSM

The contents of this message is identical to the HANOVER FROM UTRAN COMMAND-GSM message specified in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
RAB_info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band"
- CHOICE GSM message	Single GSM message

- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. The contents of the HANDOVER COMMAND see next table.
-----------	---

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 4 in clause 26.6.5.2 of GSM 51.010, except that the CHANNEL MODE IE is included with value = signalling only

8.3.7.13.5 Test requirement

At step 14 the SS shall receive SETUP message on the dedicated channel of the GSM cell.

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

Tdoc **R5-050927**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1170 ⌘ 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:	⌘ Removal of TGPL2 for section 8.3		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 26/04/05
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) 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:	⌘ 8.3.7.5.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">⌘</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	⌘	X	X	⌘	⌘	X	⌘	34.108, 34.121
Y	N										
⌘	X										
X	⌘										
⌘	X										
Other comments:	⌘										

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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.

8.3.7.5 Inter system handover from UTRAN/To GSM/Speech/Failure

8.3.7.5.1 Definition

8.3.7.5.2 Conformance requirement

If the UE does not succeed in establishing the connection to the other target radio access technology, it shall

1> revert back to the UTRA configuration;

1> establish the UTRA physical channel(s) used at the time for reception of HANOVER FROM UTRAN COMMAND;

...

transmit the HANOVER FROM UTRAN FAILURE message 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 HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "Inter-RAT handover failure" to "physical channel failure".

1> When the HANOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:

2> the procedure ends.

Reference(s)

TS 25.331 Clause 8.3.7.5.

8.3.7.5.3 Test purpose

To test that the UE reactivates the old configuration and uses this to transmit a HANOVER FROM UTRAN FAILURE message to the network including IE "Inter-RAT Handover failure cause" which is set to "physical channel failure", when it receives an HANOVER FROM UTRAN COMMAND and the connection to GSM for handover can not be established.

To verify that after the handover failure the UE resumes previously configured compressed mode patterns and measurements.

8.3.7.5.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 clause 40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9.

UE: Idle state (state 2 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM FR,
- UE supports UTRAN AMR,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480, GSM-PCS
- UE supports compressed mode (FDD only).

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS brings the UE into call active state (CC state U10) with AMR. If the UE requires compressed mode (refer ICS/IXIT), the SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message indicating two GSM cells of which only one is actually configured. This message is used to provide measurement control parameters (GSM RSSI) to the UE and to start compressed mode for the measurement if required according to the UE capabilities. The UE replies according to request by sending RRC: MEASUREMENT REPORT messages periodically to SS (reporting period is 4000 ms). The SS sends a HANDOVER FROM UTRAN COMMAND indicating a dedicated channel (not configured) of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The UE receives the command and configures itself accordingly but can not complete the handover. The SS checks that the handover is failed by checking that the UE transmits the HANDOVER FROM UTRAN FAILURE message to the SS using the old UTRAN configuration. After the handover failure, the UE re-activates compressed mode (if configured) and resumes periodic measurement reporting including sending MEASUREMENT REPORT messages periodically to SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into U10 state in UTRAN cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 1c.
1a	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
1b	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
1c	←		MEASUREMENT CONTROL	SS provides GSM RSSI measurement control parameters to UE. Compressed mode for GSM RSSI measurement is started if required as per UE capabilities.
1d	→		MEASUREMENT REPORT	UE reports measurement results of GSM RSSI measurement to SS.
3	←		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM FR which does not exist in the GSM cell.
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	→		HANDOVER FROM UTRAN FAILURE	The SS receives the message via the old UTRAN configuration.
5a	→		MEASUREMENT REPORT	The SS shall verify that the UE resumes periodic measurement reporting for GSM RSSI measurements

Information Element	Value/remark
Measurement Identity	15
Measurement Command	Setup
Measurement Reporting Mode	Acknowledged Mode RLC
- Measurement Reporting Transfer Mode	Periodical reporting
- Periodic Reporting / Event Trigger Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	Remove no inter-RAT cells
CHOICE Inter-RAT Cell Removal	
- New inter-RAT cells	0
- inter-RAT cell id	GSM
CHOICE Radio Access Technology	0
- Cell individual offset	Not present
- Cell selection and re-selection info	Value set to correspond with HANDOVER COMMAND
- BSIC	IEs seen in TS 51.010 clause 26.6.5.1 M=2
- Band indicator	GSM/DCS-1800 or GSM/PCS-1900 (dependent on band used)
- BCCH ARFCN	Value the same as HANDOVER COMMAND in TS
- inter-RAT cell id	51.010 clause 26.6.5.1 M=2 (dependant on band used)
CHOICE Radio Access Technology	1
- Cell individual offset	GSM
- Cell selection and re-selection info	0
- BSIC	Not present
- Band indicator	BSIC2
- BCCH ARFCN	GSM/DCS-1800 or GSM/PCS-1900 (dependent on band used)
- Cell for measurement	Value according to the GSM band under test (see 3GPP
- inter-RAT measurement quantity	34.123-1 table 6.5 for details on the ARFCN)
- Measurement quantity for UTRAN quality estimate	Not present
CHOICE system	Not present
- Measurement quantity	GSM
- Filter coefficient	GSM carrier RSSI
- BSIC verification required	0
- inter-RAT reporting quantity	not required
UTRAN estimated quality	FALSE
CHOICE system	GSM
- Observed time difference to GSM cell	FALSE
reporting indicator	
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
CHOICE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOICE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	4000
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- 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
- TGPSI	2
- TGPS status flag	Deactivate
- TGCFN	Not present

MEASUREMENT REPORT, if the UE requires compressed mode (refer ICS/IXIT) (Step 1d and step 5a)

Information Element	Value/remark
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see HANDOVER COMMAND in TS 51.010 Clause 26.6.5.1 M=2)
- Observed time difference to GSM cell	Check that not present
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see 3GPP 34.123-1 table 6.5 for details on the ARFCN)
- Observed time difference to GSM cell	Check that not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

MEASUREMENT REPORT, if the UE doesn't requires compressed mode (refer ICS/IXIT) (Step 1d and step 5a)

Information Element	Value/remark
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
CHOICE BSIC	verified BSIC
- Inter-RAT cell id	Check that is set to 0
- Observed time difference to GSM cell	Check that not present
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to the correct value according to the GSM band under test (see 3GPP 34.123-1 table 6.5 for details on the ARFCN)
- Observed time difference to GSM cell	Check that not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

HANDOVER FROM UTRAN COMMAND-GSM

The contents of this message is identical to the HANDOVER FROM UTRAN COMMAND-GSM message specified in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
Inter-system message	
- System type	GSM
- Frequency Band	Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band"
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING (1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1 and that the indicated target channel for GSM FR does not exist in the GSM cell

HANDOVER FROM UTRAN FAILURE

The contents of this message is identical to the HANDOVER FROM UTRAN FAILURE message specified in [9] TS 34.108 clause 9.

8.3.7.5.5 Test requirement

After step 4 the SS shall receive HANDOVER FROM UTRAN FAILURE message using the old UTRA configuration.

After step 5 the UE shall correctly report the GSM RSSI value.

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

Tdoc **R5-050930**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1171 ⌘ 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 4 testcase 8.3.1.18		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 25/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ As per 25.331, section 8.6.6.28 , “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> 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;” In this testcase if ciphering is activated, as per the above section reference, the UE will include IE ‘uplink counter synchronisation info’ in the transport channel reconfiguration complete message sent at step 12. However, as per 34.108 section 9.1.1 in the default content for Transport Channel Reconfiguration Complete message, this IE is set as “Not Present”.
Summary of change:	⌘ Following changes are made: <ol style="list-style-type: none"> 1) Added reference to section 8.6.6.28 of 25.331 in the section 8.3.1.18.2. 2) Added specific message contents for Transport Channel Reconfiguration Message sent at step no 12 with IE ‘uplink counter synchronisation info’ set to “This IE is checked to see if it is present in the case ciphering is

	activated".
	3) In the test requirements at step 12, added check for with IE 'uplink counter synchronisation info' in the transport channel reconfiguration complete message in case cipherring is activated.
Consequences if not approved:	☞ Testcase will fail a conformant UE.

Clauses affected:	☞ 8.3.1.18.2, 8.3.1.18.4, 8.3.1.18.5												
Other specs affected:	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> <td>Other core specifications</td> </tr> <tr> <td></td> <td>X</td> <td>Test specifications</td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> </tr> </tbody> </table>	Y	N			X	Other core specifications		X	Test specifications		X	O&M Specifications
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:

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- 1) Fill out the above form. The symbols above marked ☞ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

<< **START OF MODIFIED SECTION** >>**8.3.1.18 Cell Update: Radio Link Failure (T314>0, T315=0), CS RAB established**

8.3.1.18.1 Definition

8.3.1.18.2 Conformance requirement

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

2> if the UE is in CELL_DCH state and the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

...

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

...

2> if the stored value of the timer T314 is equal to zero:

...

2> if the stored value of the timer T315 is equal to zero:

3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";

3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.

2> if the stored value of the timer T314 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":

4> start timer T314.

3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":

4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

...

2> for the released radio bearer(s):

3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;

3> when all radio bearers belonging to the same radio access bearer have been released:

4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;

4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.

2> select a suitable UTRA cell according to TS 25.304;

2> set the variable ORDERED_RECONFIGURATION to FALSE.

1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;

1> set the variable CELL_UPDATE_STARTED to TRUE;

1> if the UE is not already in CELL_FACH state:

2> move to CELL_FACH state;

2> select PRACH according to TS 25.331 subclause 8.5.17;

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

2> use the transport format set given in system information as specified in TS 25.331 subclause 8.6.5.1.

1> if the UE performs cell re-selection:

2> clear the variable C_RNTI; and

2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.

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

1> in case of a cell update procedure:

2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the CELL UPDATE message for transmission on the uplink CCCH.

1> set counter V302 to 1;

1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

...

If the received CELL UPDATE CONFIRM message would cause the UE to transit to CELL_DCH state:

1> if the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message according to the criteria defined in subclause 8.5.4 in TS 25.331 are not fulfilled; or

...

the UE shall:

...

1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:

2> set the variable ORDERED_RECONFIGURATION to FALSE.

- 1> if V302 is equal to or smaller than N302:
 - 2> select a suitable UTRA cell according to TS 25.304;
 - 2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "Radio link failure";
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH;
 - 2> increment counter V302;
 - 2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.
- 1> if V302 is greater than N302:

...

"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> 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;

....

Reference

3GPP TS 25.331 clause 8.3.1.2, 8.3.1.7a, [8.6.6.28](#)

8.3.1.18.3 Test purpose

1. To confirm that the UE shall try to find a new cell after detecting that a radio link failure has occurred.
2. To confirm that the UE performs a cell selection procedure when it fails to configure the physical channel(s) indicated in the CELL UPDATE CONFIRM message.

8.3.1.18.4 Method of test

Initial Condition

System Simulator: 2 cells (Cell 1 and cell 2 are active).
 SYSTEM INFORMATION BLOCK TYPE 1 (see specific message contents).
 UE: CS_DCCH+DTCH_DCH (state 6-9).

Specific Message Content

For SIB type 1 message to be transmitted throughout the test, use the message titled "System Information Block type 1 (supported PLMN type is GSM-MAP)" as found in TS 34.108 clause 6, with the following exception.

Information Element	Value/remark
- T315	0

Test Procedure

Table 8.3.1.18

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

Table 8.3.1.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making a successful outgoing call attempt. After the call has been established, SS configures its downlink transmission power settings according to column "T1" in table 8.3.1.18. The UE shall detect a radio link failure in cell 1.

Then it shall attempt to re-select to cell 2. After that, it shall transmit CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes dedicated transport and physical channel parameters on downlink DCCH. SS shall not configure according to this message. Instead, SS configures its downlink transmission power settings according to column "T0" in table 8.3.1.18. UE shall fail to establish the dedicated channel in cell 2.

UE shall re-select to cell 1 and transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure". Then SS responds with a CELL UPDATE CONFIRM message on downlink DCCH. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

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		Void	
1		Void	
2		Void	
3		Void	
4			SS configures cell 1 and 2 according to column "T1" in table 8.3.1.18. SS starts to listen to the uplink CCCH of cell 2.
5		Void	
6			The UE detects the radio link failure.
7	→	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
8	←	CELL UPDATE CONFIRM	Including dedicated physical channel parameters.
9			SS does not configure according to the message in step 8. SS configures cell 1 and 2 according to column "T0" in table 8.3.1.18.
10	→	CELL UPDATE	UE shall select cell 1 and transmit this message
11	←	CELL UPDATE CONFIRM	See message content.
12	→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

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

CELL UPDATE (Step 7)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

CELL UPDATE CONFIRM (Step 8 and 11)

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

Information Element	Value/remark
RRC State indicator	CELL_DCH
UL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
DL Transport channel information common for all transport channels	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Added or Reconfigured TrCH information list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
CHOICE channel requirement	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information common for all radio links	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.
Downlink information per radio link list	Same as the set defined in RADIO BEARER SETUP message found in TS 34.108 clause 9 under condition A1, A2, A7 or A8.

CELL UPDATE (Step 10)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
Failure cause	This IE is not Checked.
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

[TRANSPORT CHANNEL RECONFIGURATION COMPLETE \(Step 12\)](#)

Use the same message found in TS 34.108 clause 9, with the exceptions of the following IEs:

Information Element	Value/remark
Uplink counter synchronisation info	This IE is checked to see if it is present in the case ciphering is activated.

8.3.1.18.5 Test requirement

After step 6, the UE shall detect the presence of cell 2, perform cell re-selection and transmit a CELL UPDATE message.

After step 9, the UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure".

After step 11, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC [with IE "Uplink counter synchronisation info" as present in case ciphering is activated.](#)

<< END OF MODIFIED SECTION >>

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

Tdoc **R5-050931**

CR-Form-v7.1

CHANGE REQUEST

34.123-1 CR 1172 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 Package 4 Inter-system handover test case 8.3.7.12		
Source:	3GPP TSG RAN WG5 (Testing)		
Work item code:	TEI	Date:	25/04/2005
Category:	F	Release:	Rel-5
Use <i>one</i> of the following categories:		Use <i>one</i> of the following releases:	
F (correction)		Ph2 (GSM Phase 2)	
A (corresponds to a correction in an earlier release)		R96 (Release 1996)	
B (addition of feature),		R97 (Release 1997)	
C (functional modification of feature)		R98 (Release 1998)	
D (editorial modification)		R99 (Release 1999)	
Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)	
		Rel-5 (Release 5)	
		Rel-6 (Release 6)	
		Rel-7 (Release 7)	

Reason for change: As per **25.331, section 8.6.6.28**,
 "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> 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;"

In this testcase if ciphering is activated, as per the above section reference, the UE will include IE 'uplink counter synchronisation info' in the transport channel reconfiguration complete message sent at step 8.
 However, as per 34.108 section 9.1.1, the default contents for the Physical Channel Reconfiguration Complete message this IE is set as "Not Present".

Summary of change: Following changes are made:

- Added specific message contents for physical channel reconfiguration message sent at step no 8 with IE 'uplink counter synchronisation info' set to "Not Checked".

Consequences if not approved:	⌘	Test Case may fail a conformant UE.									
Clauses affected:	⌘	8.3.7.12.4									
Other specs affected:	⌘	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Y	N							Other core specifications ⌘ Test specifications O&M Specifications
	Y	N									
Other comments:	⌘	This CR requires change in TTCN.									

How to create CRs using this form:

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

<<START OF MODIFIED SECTION>>**8.3.7.12 Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure)**

8.3.7.12.1 Definition

8.3.7.12.2 Conformance requirement:

If the UE does not succeed in establishing the connection to the target radio access technology, it shall:

- 1> revert back to the UTRA configuration;
- 1> establish the UTRA physical channel(s) used at the time for reception of HANOVER FROM UTRAN COMMAND;
- 1> if the UE does not succeed to establish the UTRA physical channel(s):
 - 2> perform a cell update procedure according to subclause 8.3.1 in TS 25.331 with cause "Radio link failure";
 - 2> when the cell update procedure has completed successfully:
 - 3> proceed as below.
- 1> transmit the HANOVER FROM UTRAN FAILURE message 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 HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry;
 - 2> set the IE "Inter-RAT handover failure" to "physical channel failure".
- 1> When the HANOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:
 - 2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.7.5

8.3.7.12.3 Test purpose

The UE shall perform a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the target RAT cell as given in the HANOVER FROM UTRAN COMMAND message. After the UE completes the cell update procedure, the UE shall transmit a HANOVER FROM UTRAN FAILURE message on the DCCH using AM RLC, including IE "failure cause" set to "physical channel failure".

8.3.7.12.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 9.

UE: Idle state (state 2 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports GSM FR,
 UE supports UTRAN AMR,
 UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480, GSM-PCS.

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS and brings the UE into call active state (CC state U10) with AMR on the UTRAN cell. The SS configures a target dedicated channel on the GSM cell. The SS sends a HANOVER FROM UTRAN COMMAND indicating a dedicated channel of the target GSM cell to the UE through DCCH using the UTRAN configuration. The UE receives the command and configures itself accordingly but cannot complete the handover and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS released the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits the HANOVER FROM UTRAN FAILURE message to the SS using the new UTRA configuration, on the DCCH using AM RLC, setting the value of IE "failure cause" to "physical channel failure".

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	SS			The SS configures a dedicated GSM FR channel on the GSM cell.
3	←		HANOVER FROM UTRAN COMMAND-GSM	Send using the UTRA configuration and the message indicates: the target channel for GSM FR.
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the HANOVER COMMAND message that is contained within the HANOVER FROM UTRAN COMMAND -GSM message
5	→		HANOVER ACCESS	The SS receives this burst on the traffic channel of cell 9 (GSM cell) It implies that the UE has switched to GSM cell. Upon receiving this burst, SS removes both the target GSM Traffic Channel and the UTRA physical channel (DPCH) allocated to the mobile before handover command transmission. As a result not only the handover will fail, but also the reversion to the old UTRA configuration.
6	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
7	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
8				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
10	→		HANOVER FROM UTRAN FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific message contents

Same as the message contents of clause 8.3.7.1 for Execution 3.

CELL UPDATE (Step 6)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 7) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
CHOICE channel requirement	Uplink DPCH info
-UplinkDPCH Info	Same as specified in "Contents of RADIO BEARER SETUP message: AM or UM" for condition A2 (Speech CS) in TS 34.108 clause 9.1
- DPCCH power offset	-80dB (i.e. ASN.1 IE value of -40)
- PC Preamble	1 frame
- SRB delay	7 frames
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit	Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Same as specified in "Contents of RADIO BEARER SETUP message: AM or UM" for condition A2 (Speech CS) in TS 34.108 clause 9.1
CHOICE Mode	FDD
- Downlink DPCH info common for all RL	
- Timing indicator	Initialise
- CFN-targetSFN frame offset	Not Present
- Downlink DPCH power control information	
- DPC mode	0 (single)
- CHOICE mode	FDD
- Power offset PPilot-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 information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	Not Present
- Closed loop timing adjustment mode	Not Present
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 7) (3.84 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- 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 7) (1.28 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- 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)

HANDOVER FROM UTRAN COMMAND

The contents of this message is identical to the HANDOVER FROM UTRAN COMMAND-GSM message specified in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
Inter-system message - System type - Frequency Band - CHOICE GSM message - Message	GSM Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band" Single GSM message GSM HANDOVER COMMAND formatted as BIT STRING (1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 8)

Use the same message found in TS 34.108 clause 9, with the exceptions of the following IEs:

<u>Information Element</u>	<u>Value/remark</u>
<u>Uplink counter synchronisation info</u>	<u>Not Checked</u>

HANDOVER FROM UTRAN FAILURE

The contents of this message is identical to the HANDOVER FROM UTRAN FAILURE message specified in [9] TS 34.108 clause 9.

8.3.7.12.5 Test requirement

After step 5 the SS shall receive an CELL UPDATE message.

After step 8 the SS shall receive an PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

After step 9 the SS shall receive an INTER-SYSTEM HANDOVER FAILURE message via the new UTRA configuration.

<<END OF MODIFIED SECTION>>

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

Tdoc **R5-050932**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1173 ⌘ 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 Inter-RAT Test Case 8.3.7.12		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 10/04/2005
Category:	⌘ D	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ To correct the name of the Handover command message
Summary of change:	⌘ In step 9 of the test requirement, the message name has been changed to HANDOVER FROM UTRAN FAILURE.
Consequences if not approved:	⌘ The prose will be incorrect.

Clauses affected:	⌘ 8.3.7.12.5						
Other specs affected:	<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	Other core specifications	⌘
	Y	N					
	X	X					
	<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	Test specifications	
Y	N						
X	X						
<table border="1" style="font-size: x-small;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	O&M Specifications		
Y	N						
X	X						
Other comments:	⌘ No impact to TTCN as the TTCN is already implemented this way.						

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.

8.3.7.12 Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure)

8.3.7.12.1 Definition

8.3.7.12.2 Conformance requirement:

If the UE does not succeed in establishing the connection to the target radio access technology, it shall:

- 1> revert back to the UTRA configuration;
- 1> establish the UTRA physical channel(s) used at the time for reception of HANOVER FROM UTRAN COMMAND;
- 1> if the UE does not succeed to establish the UTRA physical channel(s):
 - 2> perform a cell update procedure according to subclause 8.3.1 in TS 25.331 with cause "Radio link failure";
 - 2> when the cell update procedure has completed successfully:
 - 3> proceed as below.
- 1> transmit the HANOVER FROM UTRAN FAILURE message 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 HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry;
 - 2> set the IE "Inter-RAT handover failure" to "physical channel failure".
- 1> When the HANOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:
 - 2> the procedure ends.

Reference

3GPP TS 25.331 clause 8.3.7.5

8.3.7.12.3 Test purpose

The UE shall perform a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the target RAT cell as given in the HANOVER FROM UTRAN COMMAND message. After the UE completes the cell update procedure, the UE shall transmit a HANOVER FROM UTRAN FAILURE message on the DCCH using AM RLC, including IE "failure cause" set to "physical channel failure".

8.3.7.12.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 9 is GSM. GSM 51.010 section 40 shall be referenced for the default parameters, and clause 26.6.5.1 shall be referenced for cell allocation of cell 9.

UE: Idle state (state 2 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,
UE supports GSM FR,

UE supports UTRAN AMR,
UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480, GSM-PCS.

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS and brings the UE into call active state (CC state U10) with AMR on the UTRAN cell. The SS configures a target dedicated channel on the GSM cell. The SS sends a HANOVER FROM UTRAN COMMAND indicating a dedicated channel of the target GSM cell to the UE through DCCH using the UTRAN configuration. The UE receives the command and configures itself accordingly but cannot complete the handover and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS released the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink DCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits the HANOVER FROM UTRAN FAILURE message to the SS using the new UTRA configuration, on the DCCH using AM RLC, setting the value of IE "failure cause" to "physical channel failure".

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	SS			The SS configures a dedicated GSM FR channel on the GSM cell.
3	←		HANDOVER FROM UTRAN COMMAND-GSM	Send using the UTRA configuration and the message indicates: the target channel for GSM FR.
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER COMMAND message that is contained within the HANDOVER FROM UTRAN COMMAND -GSM message
4a	SS			SS removes the UTRAN physical channel (DPCH) allocated to the mobile to ensure UE will not be able to revert back to the old UTRAN configuration when handover failed
5	→		HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 9 (GSM cell) It implies that the UE has switched to GSM cell. Upon receiving this burst, SS removes the target GSM Traffic Channel. As a result not only the handover will fail, but also the reversion to the old UTRA configuration.
6	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
7	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
8				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
10	→		HANDOVER FROM UTRAN FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific message contents

Same as the message contents of clause 8.3.7.1 for Execution 3.

CELL UPDATE (Step 6)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'

Cell Update Cause	"radio link failure"
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CELL UPDATE CONFIRM (Step 7) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS 34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
CHOICE channel requirement	Uplink DPCH info
- Uplink DPCH Info	Same as specified in "Contents of RADIO BEARER SETUP message: AM or UM" for condition A2 (Speech CS) in TS 34.108 clause 9.1
- DPCCH power offset	-80dB (i.e. ASN.1 IE value of -40)
- PC Preamble	1 frame
- SRB delay	7 frames
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	Reference to TS34.108 clause 6.10 Parameter Set
- Number of FBI bit	Reference to TS34.108 clause 6.10 Parameter Set
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Same as specified in "Contents of RADIO BEARER SETUP message: AM or UM" for condition A2 (Speech CS) in TS 34.108 clause 9.1
CHOICE Mode	FDD

- Downlink DPCH info common for all RL	Initialise
- Timing indicator	Not Present
- CFN-targetSFN frame offset	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- CHOICE mode	FDD
- Power offset PPilot-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 information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	Not Present
- Closed loop timing adjustment mode	Not Present
- SCCPCH information for FACH	Not Present

CELL UPDATE CONFIRM (Step 7) (3.84 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 5.1 Test

Maximum allowed UL TX power	frequencies
CHOICE Mode	30dBm
Downlink information for each radio links	TDD
- 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 7) (1.28 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- 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)

HANDOVER FROM UTRAN COMMAND

The contents of this message is identical to the HANDOVER FROM UTRAN COMMAND-GSM message specified in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
Inter-system message - System type - Frequency Band - CHOICE GSM message - Message	GSM Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band" Single GSM message GSM HANDOVER COMMAND formatted as BIT STRING (1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

HANDOVER FROM UTRAN FAILURE

The contents of this message is identical to the HANDOVER FROM UTRAN FAILURE message specified in [9] TS 34.108 clause 9.

8.3.7.12.5 Test requirement

After step 5 the SS shall receive an CELL UPDATE message.

After step 8 the SS shall receive an PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

After step 9 the SS shall receive an ~~INTER-SYSTEM HANDOVER FAILURE~~ [HANDOVER FROM UTRAN FAILURE](#) message via the new UTRA configuration.

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

Tdoc **R5-050937**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1174 ⌘ 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 Package 3 RRC test case 8.3.2.13		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 25/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)


Reason for change:	<p>⌘</p> <p>a) In SIB4 and SIB11, q_HCS is given as 39 (- 76dbm). UE will start the penalty timer for a cell when Qmeas > q_HCS As per table 8.3.2.13-1, the power level of the neighbouring Cells should be set to -70 dbm. Taking into account the UE and SS tolerances, the received power level can be very close to the boundary of the above condition. Due to this the penalty timer can start / stop and trigger a cell update procedure. To improve the reliability of the test case, the power level of cell 3 at instant T0 and that of cell 2 at instant T0 and T1 is modified to -83 dBm and power level of cell 2 at instant T2 and that of cell 3 at time instant T1 and T2 are changed to – 69 dBm, so that the cell power levels maintain a reasonable distance from the Q_hcs at all times.</p> <p>b) In the specific message contents for SIB4, the IE Q_{hyst1s} needs to be modified as per the power level change mentioned above to make cell 2 a higher ranked cell than cell 3.</p> <p>c) Table 8.3.2.13-1 needs to be updated with the new power levels and recalculated values of “H” and “R” according to the following equations:</p> $H_s = Q_{meas,s} - Q_{hcs_s}$ $H_n = Q_{meas,n} - Q_{hcs_n} - TO_n * L_n$ $R_s = Q_{meas,s} + Q_{hyst_s}$
---------------------------	--

$R_n = Q_{meas,n} - Q_{offset,s,n} - TO_n * (1 - L_n)$	
Summary of change:	<p>Following changes are made to section 8.3.2.13.4</p> <p>a) Updated power levels for Cell 1, 2 and 3 at time instance T0, T1 and T2 in the table 8.3.2.13-1 and accordingly updated the H*, R* value.</p> <p>b) Changed the value of the IE Qhyst1s from "10" to "5" in specific message contents for SIB4.</p>
Consequences if not approved:	The test case will fail a conformant UE.

Clauses affected:	8.3.2.13.4								
Other specs Affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> </tbody> </table> <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <p>Other core specifications</p> <p>Test specifications</p> <p>O&M Specifications</p> </div>	Y	N	X		X		X	
Y	N								
X									
X									
X									
Other comments:	This change will 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 THE MODIFIED SECTION >>

8.3.2.13 URA Update: Change of URA due to HCS Cell Reselection

8.3.2.13.1 Definition

8.3.2.13.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is defined by:

$$H_s = Q_{meas,s} - Q_{hcs_s}$$

$$H_n = Q_{meas,n} - Q_{hcs_n} - TO_n * L_n$$

...

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{meas,s} + Q_{hyst_s}$$

$$R_n = Q_{meas,n} - Q_{offset_{s,n}} - TO_n * (1 - L_n)$$

where:

$$TO_n = TEMP_OFFSET_n * W(PENALTY_TIME_n - T_n)$$

$$L_n = 0 \quad \text{if } HCS_PRIO_n = HCS_PRIO_s$$

$$L_n = 1 \quad \text{if } HCS_PRIO_n <> HCS_PRIO_s$$

$$W(x) = 0 \quad \text{for } x < 0$$

$$W(x) = 1 \quad \text{for } x >= 0$$

TEMP_OFFSET_n applies an offset to the H and R criteria for the duration of PENALTY_TIME_n after a timer T_n has started for that neighbouring cell.

The timer T_n is implemented for each neighbouring cell. T_n shall be started from zero when one of the following conditions becomes true:

- if HCS_PRIO_n <> HCS_PRIO_s and

$$Q_{meas,n} > Q_{hcs_n}$$

Or

- if HCS_PRIO_n = HCS_PRIO_s and

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH RSCP in the serving cell, and:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset_{s,n}}$$

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH Ec/No in the serving cell, and:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}2,s,n}$$

- for all other serving and neighbour cells:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}1,s,n}$$

T_n for the associated neighbour cell shall be stopped as soon as any of the above conditions are no longer fulfilled. Any value calculated for TO_n is valid only if the associated timer T_n is still running else TO_n shall be set to zero.

At cell-reselection, a timer T_n is stopped only if the corresponding cell is not a neighbour cell of the new serving cell, or if the criteria given above for starting timer T_n for the corresponding cell is no longer fulfilled with the parameters of the new serving cell. On cell re-selection, timer T_n shall be continued to be run for the corresponding cells but the criteria given above shall be evaluated with parameters broadcast in the new serving cell if the corresponding cells are neighbours of the new serving cell.

...

- The cell selection criterion S used for cell reselection is fulfilled when:

for FDD cells:	$S_{\text{rxlev}} > 0$ AND $S_{\text{qual}} > 0$
for TDD cells:	$S_{\text{rxlev}} > 0$
for GSM cells:	$S_{\text{rxlev}} > 0$

Where :

$S_{\text{qual}} = Q_{\text{qualmeas}} - Q_{\text{qualmin}}$
$S_{\text{rxlev}} = Q_{\text{rxlevmeas}} - Q_{\text{rxlevmin}} - P_{\text{compensation}}$

...

- 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 $H \geq 0$. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion $H \geq 0$. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

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 and the quality measure for cell selection and reselection is set to CPICH RSCP, the UE shall perform cell re-selection to that FDD cell.

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

- the new cell is better ranked than the serving cell during a time interval $T_{\text{reselection}}$.
- more than 1 second has elapsed since the UE camped on the current serving cell.

...

6. The *cell reselection* process in Connected Mode is the same as *cell reselection evaluation process* used for idle mode, described in subclause 5.2.6 of 25.304.

7. A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

2> if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or

...

3> perform URA update using the cause "change of URA".

Reference

3GPP TS 25.304 clause 5.2.6.1.4

3GPP TS 25.304 clause 5.4.3

3GPP TS 25.331 clause 8.3.1

8.3.2.13.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters in URA_PCH state.
2. To confirm that the UE executes an URA update procedure after the successful change of URA due to HCS Cell Reselection in URA_PCH state.
3. To confirm UE responds correctly when it re-selects to a new cell while waiting from URA UPDATE CONFIRM message from SS.

8.3.2.13.4 Method of test

Initial Condition

System Simulator: 3 cells - Cell 1 is active with URA-ID 1 and downlink transmission power shown in column marked "T0" in table 8.3.2.13-1. Cell2 with URA-ID 1 and Cell 3 with URA-ID 2 are switched off

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE, with URA-ID 1 from the list of URA-ID in cell 1

Specific Message Content

For system information blocks 4 and 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.

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	FDD
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- S _{limit,SearchRAT}	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	105 (gives actual value of 2010 dB)
- Qhyst2s	0 dB
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of -76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell selection and re-selection info	
- CHOICE mode	TDD
- SsearchHCS	47 dB
- Qhyst1s	10 (gives actual value of 20 dB)
- HCS Serving cell information	
-HCS Priority	6
- Q_HCS	39 (results in actual value of -76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset1s,n	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset1s,n	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.2.13-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
Cell id in system information		1			2			3		
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm /3.84 MHz	-60	-60	-60	-80 <u>-83</u>	-80 <u>-83</u>	-70 <u>-69</u>	-80 <u>-83</u>	-70 <u>-69</u>	-73 <u>-69</u>
H* (During penalty time)		16	16	4	-4 <u>-19</u>	-4 <u>-19</u>	6 <u>7</u>	-4 <u>-19</u>	-6 <u>-5</u>	3 <u>7</u>
H* (After PenaltyTime)		16	16	16	-4 <u>-7</u>	-4 <u>-7</u>	6 <u>7</u>	-4 <u>-7</u>	6 <u>7</u>	3 <u>7</u>
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (After PenaltyTime)		15	15	15	-4	-4	9	-4	3	3
R* (During PenaltyTime)		<u>-50</u>	<u>-50</u>	<u>-40</u>	<u>-63</u>	<u>-63</u>	<u>-61</u>	<u>-63</u>	<u>-49</u>	<u>-59</u>
R* (After PenaltyTime)		-41 <u>-50</u>	-41 <u>-50</u>	-41 <u>-40</u>	-60 <u>-63</u>	-60 <u>-63</u>	-47 <u>-49</u>	-60 <u>-63</u>	-53 <u>-49</u>	-53 <u>-59</u>

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. SS configures Cell 2 and 3 with power level given in column "T0", and URA-Id 1 and 2 respectively and starts broadcast of BCCH on the primary CCPCH in cells 2 and 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.2.13-1. SS then adjusts the transmission power again according to 'T1' column. This is expected to cause the UE to perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. UE on performing cell reselection to cell 3 finds that its current URA-ID 1 is not in the new broadcasted list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH. After the SS receives this message, it transmits URA UPDATE CONFIRM message to the UE on the downlink CCCH. The "RRC State Indicator" is set to "URA_PCH". UE returns to URA_PCH state in cell 3 without sending a uplink response message. Next SS adjusts the transmission power according to 'T2' column. After the expiry of penalty time the UE shall re-select to cell 2, and transmit URA UPDATE message to SS. However, SS do not acknowledge but adjusts the transmission power according to 'T0' column. UE shall perform cell re-selection to cell 1 and then sent URA UPDATE message to SS. Finally SS shall transmit URA UPDATE CONFIRM message to UE on the downlink CCCH. UE shall return to URA_PCH state in Cell 1 and will not transmit anything on PRACH.

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 updated with only 1 URA identity carried currently by cell 1. The starting state of the UE is URA_PCH
2	←	BCCH	SS configures cell 2 (with URA-ID 1) and Cell 3 (with URA-ID 2) and power levels as given in column T0 of table 8.3.2.13-1 and starts transmission of BCCH.
3			UE shall Remain camped on Cell 1 and in URA_PCH state even after expiry of Penalty time.
4			SS set the power transmission of all cells according to column 'T1' of table 8.3.2.13-1.
5	→	URA UPDATE	The UE shall perform a cell reselection first after the penalty time to cell 3 and when it finds that its current URA-ID 1 is not in the new broadcasted list of URA-IDs, it shall then transmit this message and set value "change of URA" into IE "URA update cause".
6	←	URA UPDATE CONFIRM	Message sent on CCCH.
7			SS set the power transmission of all cells according to column 'T2' of table 8.3.2.13-1. SS makes sure that the UE does not send an URA Update message during penalty time
8	→	URA UPDATE	In Cell 2
9			SS do not respond to the URA UPDATE message from UE and set the power transmission of all cells according to column 'T0' of table 8.3.2.13-1.
10	→	URA UPDATE	In Cell 1
11	←	URA UPDATE CONFIRM	Message sent on CCCH.

Specific Message Contents

The contents of system information block 4 and 11 messages are identical as system information block 4 and 11 messages as found in 34.108 clause 6.1 with the following exceptions:

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	FDD
- CHOICE mode	0 dB
- Sintersearch	35 dB
- SsearchHCS	This parameter is configurable
- RAT List	Not Present
- S _{limit,SearchRAT}	-20 dB
- Qqualmin	-115 dBm
- Qrxlevmin	405 (gives actual value of 2010 dB)
- Qhyst1s	0 dB
- Qhyst2s	
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of -76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	TDD
- CHOICE mode	47 dB
- SsearchHCS	10 (gives actual value of 20 dB)
- Qhyst1s	
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of -76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	1
- Cell info	
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of -76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	12
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

URA UPDATE (Step 5, 8 and 10)

Information Element	Value/remark
URA Update Cause	Check to see if set to 'change of URA'

URA UPDATE CONFIRM (Steps 6 and 11)

Use the same message sub-type found in TS 34.108 clause 9.

8.3.2.13.5 Test requirement

After step 4 the UE shall find that URA-ID 2 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 7 the UE shall find that URA-ID 1 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

<< END OF THE MODIFIED SECTION >>

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

Tdoc **R5-050940**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1175 ⌘ 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:	⌘ Addition of new Rel-5 RRC test cases to 34.123-1 for Inter-RAT Network Assisted Cell Change		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI5	Date:	⌘ 12/04/2005
Category:	⌘ B	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ There is no test case coverage on the Rel-5 feature Network Assisted Cell Change (NACC) from UTRAN to GERAN in the test specifications. The NACC feature provides a real improvement for users in live networks as it reduces the service interruption happening during transfer of a PS call from CELL_DCH in UTRAN to GERAN. NACC requirements are specified in the core specification 25.331 clause 8.3.11.3: 1> if the UE supports UTRAN to GERAN Network Assisted Cell Change, the IE "Geran-System Information" is present and the UE is in CELL_DCH state: 2> if according to [44] the IE "GERAN System Information" includes a correct and consistent set of SI or PSI messages: 3> use this information as the system information to begin access on the target GERAN cell. 2> otherwise: 3> ignore the IE "GERAN System Information" and continue the Cell Change Order procedure.
Summary of change:	⌘ 2 new inter-RAT cell change order from UTRAN test cases are added to the test specifications: <ul style="list-style-type: none"> • 8.3.11.12 <i>Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Network Assisted Cell Change/Success</i> This test verifies that the UE correctly uses the information provided in the IE "Geran-System Information" to access the target GERAN cell. • 8.3.11.13 <i>Inter-RAT cell change order from UTRAN/To</i>

<p><i>GPRS/CELL_DCH/Network Assisted Cell Change with Invalid SI/Success</i> This test verifies that the UE ignores an invalid set of SI or PSI in the IE "Geran-System Information" and successfully continues the Cell Change Order procedure.</p>	
Consequences if not approved:	☹ This feature of the UE will remain untested.

Clauses affected:	☹ 8.3.11.12 (new), 8.3.11.13 (new)								
Other specs Affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">☐</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">☐</td> </tr> <tr> <td style="text-align: center;">☐</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ☹ Test specifications ☹ O&M Specifications ☹	Y	N	☐	X	X	☐	☐	X
Y	N								
☐	X								
X	☐								
☐	X								
Other comments:	☹ Affects Rel-5 UE's								

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked ☹ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.3.11.12 Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Network Assisted Cell Change/Success

8.3.11.12.1 Definition

8.3.11.12.2 Conformance requirement

1> if the UE supports UTRAN to GERAN Network Assisted Cell Change, the IE "Geran-System Information" is present and the UE is in CELL_DCH state:

2> if according to [44] the IE "GERAN System Information" includes a correct and consistent set of SI or PSI messages:

3> use this information as the system information to begin access on the target GERAN cell.

2> otherwise:

3> ignore the IE "GERAN System Information" and continue the Cell Change Order procedure.

NOTE: The IE "GERAN System Information" is constructed in the same way as in 2G to 2G NACC, i.e. the PSI messages are encoded as such, whereas the SI messages exclude 2 octets of headers, see [44].

Reference(s)

TS 25.331 clause 8.3.11.3

8.3.11.12.3 Test purpose

To test that the UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message which includes a correct and consistent set of SI or PSI messages in the IE "GERAN System Information" in CELL_DCH state and perform a cell change to another RAT using this as the system information to begin access on the target GERAN cell, even if no prior UE measurements have been performed on the target cell. The UE regards the procedure as completed when it has received a successful response from the target RAT, e.g. in case of GSM when it received the response to a (PACKET) CHANNEL REQUEST in the new cell.

8.3.11.12.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN. Cell 2 is GPRS, no System Information is broadcast on the BCCH. 51.010 clauses 20.22 and 40.1.1 Cell A parameters shall be referenced for the default parameters of cell 2.

All cells belong to the same PLMN. UTRAN and GPRS cells belong to different location area.

UE: PS-DCCH+DTCH_DCH (State 6-10) in cell 1 as specified in clause 7.4 of TS 34.108, one PS domain RAB is established.

Related ICS/IXIT statement

- UE supports UTRAN to GERAN NACC,
- UE supports both GSM/GPRS and UTRAN Radio Access Technologies,
- UE supports UTRAN interactive/ background UL: 64kbps, DL: 64 kbps/PS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480,

Test Procedure

The SS starts the UTRAN cell and brings the UE into PS-DCCH+DTCH_DCH (State 6-10). The SS starts GPRS cell, then sends CELL CHANGE ORDER FROM UTRAN indicating the target cell description, GPRS cell, including GERAN system information, to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel on the target GPRS cell. The SS checks whether the cell change is

performed by checking that the UE receives a successful response to the CHANNEL REQUEST message from the SS through GPRS cell. The UE sends a RA UPDATE REQUEST message to indicate that the UTRAN UE context needs to be transferred to GPRS.

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into PS-DCCH+DTCH_DCH (State 6-10) in cell 1
2	SS			The SS configures cell 2 as a GSM cell with GPRS enabled. No system information is broadcast on the BCCH
3	←		CELL CHANGE ORDER FROM UTRAN	Send on cell 1 (UTRAN cell) and the message indicates: the target cell description for GPRS and includes system information for cell 2.
4	UE			The UE accepts the cell change command and switches to the GPRS cell specified in the CELL CHANGE ORDER FROM UTRAN
5	→		CHANNEL REQUEST	The SS receives this burst on the RACH of cell 2 to establish temporary block flow (GPRS cell). It implies that the UE has switched to GPRS cell.
6	←		IMMEDIATE ASSIGNMENT	Uplink dynamic allocation. Sent on AGCH.
7	→		ROUTING AREA UPDATE REQUEST	

Specific message contents

CELL CHANGE ORDER FROM UTRAN

<u>Information Element</u>	<u>Value/remark</u>
<u>Message Type</u> <u>RRC transaction identifier</u> <u>Integrity check info</u> <u>- Message authentication code</u> <u>- RRC Message sequence number</u> <u>Activation time</u> <u>Target cell description</u> <u>- CHOICE Radio Access Technology</u> <u>- GSM</u> <u>- BSIC</u> <u>- Band Indicator</u> <u>- BCCH ARFCN</u> <u>- NC mode</u> <u>- CHOICE geran-SystemInfoType</u> <u>- sl</u>	<u>Arbitrarily selects one integer between 0 to 3</u> <u>SS calculates the value of MAC-I for this message and writes to this IE.</u> <u>SS provides the value of this IE, from its internal counter.</u> <u>Now</u> <u>BSIC of Cell 2</u> <u>Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band"</u> <u>Allocated BCCH ARFCN of Cell 2</u> <u>NOT PRESENT</u> <u>Encoded to contain default GPRS Cell A system information.</u>

8.3.11.12.5 Test requirement

After step 3 the UE shall transmit a CHANNEL REQUEST message on RACH.

8.3.11.13 Inter-RAT cell change order from UTRAN/To GPRS/CELL_DCH/Network Assisted Cell Change with Invalid SI/Success

8.3.11.13.1 Definition

8.3.11.13.2 Conformance requirement

1> if the UE supports UTRAN to GERAN Network Assisted Cell Change, the IE "Geran-System Information" is present and the UE is in CELL_DCH state:

2> if according to [44] the IE "GERAN System Information" includes a correct and consistent set of SI or PSI messages:

3> use this information as the system information to begin access on the target GERAN cell.

2> otherwise:

3> ignore the IE "GERAN System Information" and continue the Cell Change Order procedure.

NOTE: The IE "GERAN System Information" is constructed in the same way as in 2G to 2G NACC, i.e. the PSI messages are encoded as such, whereas the SI messages exclude 2 octets of headers, see [44].

Reference(s)

TS 25.331 clause 8.3.11.3

8.3.11.13.3 Test purpose

To test that the UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message which includes an incorrect set of SI or PSI messages in the IE "GERAN System Information" in CELL_DCH state and perform a cell change to another RAT, ignoring the IE "GERAN System Information", even if no prior UE measurements have been performed on the target cell. The UE regards the procedure as completed when it has received a successful response from the target RAT, e.g. in case of GSM when it received the response to a (PACKET) CHANNEL REQUEST in the new cell.

8.3.11.13.4 Method of test

Initial conditions

System Simulator: 2 cells - Cell 1 is UTRAN, Cell 2 is GPRS. 51.010 clauses 20.22 and 40.1.1 Cell A parameters shall be referenced for the default parameters of cell 2.

All cells belong to the same PLMN. UTRAN and GPRS cells belong to different location area.

UE: PS-DCCH+DTCH_DCH (State 6-10) in cell 1 as specified in clause 7.4 of TS 34.108, one PS domain RAB is established.

Related ICS/IXIT statement

- UE supports UTRAN to GERAN NACC.
- UE supports both GSM/GPRS and UTRAN Radio Access Technologies.
- UE supports UTRAN interactive/ background UL: 64kbps, DL: 64 kbps/PS RAB + uplink:3.4 DL:3.4 kbps SRBs.
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Test Procedure

The SS starts the UTRAN cell and brings the UE into PS-DCCH+DTCH_DCH (State 6-10). The SS starts GPRS cell, then sends CELL CHANGE ORDER FROM UTRAN indicating the target cell description, GPRS cell, and including a set of GERAN system information which describes a GPRS cell different to the target cell, and replaced SI 3 with all '1's, to the UE through DCCH of the serving UTRAN cell. This is to test that if any of the SI signalled is not correct, all of the IE is ignored. After the UE receives the command it shall configure itself accordingly and switch to the new channel on the target GPRS cell, ignoring the IE "GERAN System Information" and reading this instead from cell 2. The SS checks whether the cell change is performed by checking that the UE receives a successful response to the CHANNEL REQUEST message from the SS through GPRS cell. The UE sends a RA UPDATE REQUEST message to indicate that the UTRAN UE context needs to be transferred to GPRS.

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into PS-DCCH+DTCH DCH (State 6-10) in cell 1
2	SS			The SS configures cell 2 as a GSM cell with GPRS enabled
3	←		CELL CHANGE ORDER FROM UTRAN	Send on cell 1 (UTRAN cell) and the message indicates: the target cell description for GPRS, including invalid GERAN system information.
4	UE			The UE accepts the cell change command and switches to the GPRS cell specified in the CELL CHANGE ORDER FROM UTRAN
5	→		CHANNEL REQUEST	The SS receives this burst on the RACH of cell 2 to establish temporary block flow (GPRS cell). It implies that the UE has switched to GPRS cell.
6	←		IMMEDIATE ASSIGNMENT	Uplink dynamic allocation. Sent on AGCH.
7	→		ROUTING AREA UPDATE REQUEST	

Specific message contents

CELL CHANGE ORDER FROM UTRAN

Information Element	Value/remark
<u>Message Type</u> <u>RRC transaction identifier</u> <u>Integrity check info</u> - Message authentication code - RRC Message sequence number <u>Activation time</u> <u>Target cell description</u> - CHOICE Radio Access Technology - GSM - BSIC - Band Indicator - BCCH ARFCN - NC mode - CHOICE geran-SystemInfoType - sl	<u>Arbitrarily selects one integer between 0 to 3</u> <u>SS calculates the value of MAC-I for this message and writes to this IE.</u> <u>SS provides the value of this IE, from its internal counter.</u> <u>Now</u> <u>BSIC of Cell 2</u> <u>Set to "GSM/ PCS 1900" if GSM/ PCS 1900 is used in this test. Otherwise set to "GSM/DCS 1800 Band"</u> <u>Allocated BCCH ARFCN of Cell 2</u> <u>NOT PRESENT</u> <u>Encoded to contain default GPRS Cell B system information. SI 3 encoded PDU is replaced with all '1' bits to test that all of the IE is ignored if any part is incorrect.</u>

8.3.11.13.5 Test requirement

After step 3 the UE shall transmit a CHANNEL REQUEST message on RACH.

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

Tdoc **R5-050942**

CR-Form-v7

CHANGE REQUEST

34.123-1 CR 1176 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:	Addition of new Rel-5 test cases for CELL_FACH and CELL_PCH state specific handling of Treselection and Qhyst parameters in cell reselection to 34.123-1		
Source:	3GPP TSG RAN WG5 (Testing)		
Work item code:	TEI5	Date:	15/04/2005
Category:	B	Release:	Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change: There is no test case coverage on the Rel-5 SIB4 state specific parameters intended to optimize cell reselection performance in CELL_FACH and CELL_PCH states. Details of these additional parameters can be found in Tdocs R2-042636 and R2-042634 and in latest Rel-5 version of 24.304 5.2.6.1.4.

Revision of R5-050767, changes include:

- Tuning of the power levels & reselection parameters to make sure that the UE accuracy is respected,
- Cell B has been made an inter-frequency cell to avoid any possible S criterion problems,
- Change Treselection,fach from 15 to 6s (15s is not possible).

The test cases cover the following requirements:

The offset $Q_{offset1_{s,n}}$ is used for $Q_{offset_{s,n}}$ to calculate R_n , the hysteresis Q_{hyst1_s} is used for Q_{hyst_s} to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst_s} takes the value $Q_{hyst1_{s,PCH}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst_s} takes the value $Q_{hyst1_{s,FACH}}$ to calculate R_s , if provided in SIB4 [see 4].

If an FDD cell is ranked as the best cell and the quality measure for cell selection and re-selection is set to CPICH Ec/No, the UE shall perform a second ranking of the FDD cells according to the R criteria specified above, but using the measurement quantity CPICH Ec/No for deriving the $Q_{meas,n}$ and $Q_{meas,s}$ and calculating the R values of the FDD cells. The offset $Q_{offset2_{s,n}}$ is used for $Q_{offset_{s,n}}$ to calculate R_n , the hysteresis Q_{hyst2_s} is

used for Q_{hyst}_s to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}2_{s,\text{PCH}}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}2_{s,\text{FACH}}}$ to calculate R_s , if provided in SIB4 [see 4]. If the usage of HCS is indicated in system information, $\text{TEMP_OFFSET}2_n$ is used 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 . Following this second ranking, the UE shall perform cell re-selection to the best ranked FDD cell.

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

- the new cell is better ranked than the serving cell during a time interval Treselection . For UE in RRC connected mode states CELL_PCH or URA_PCH the interval $\text{Treselection}_{s,\text{PCH}}$ applies, if provided in SIB4 [see 4], while for UE in RRC connected mode state CELL_FACH the interval $\text{Treselection}_{s,\text{FACH}}$ applies, if provided in SIB4 [see 4]. For hierarchical cell structures when high mobility state has not been detected, if according to the HCS rules the serving cell is not ranked then all the ranked cells are considered to be better ranked than the serving cell.

$Q_{\text{hyst}1_{s,\text{PCH}}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode states CELL_PCH and URA_PCH. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP. If this parameter is not provided in SIB4, $Q_{\text{hyst}1_s}$ shall be used.

$Q_{\text{hyst}1_{s,\text{FACH}}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode state CELL_FACH. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP. If this parameter is not provided in SIB4, $Q_{\text{hyst}1_s}$ shall be used.

$Q_{\text{hyst}2_{s,\text{PCH}}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode states CELL_PCH and URA_PCH. It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No. If this parameter is not provided in SIB4, $Q_{\text{hyst}2_s}$ shall be used.

$Q_{\text{hyst}2_{s,\text{FACH}}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode state CELL_FACH. It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No. If this parameter is not provided in SIB4, $Q_{\text{hyst}2_s}$ shall be used.

$\text{Treselection}_{s,\text{PCH}}$

This specifies the cell reselection timer value the UE shall use in RRC connected mode states CELL_PCH and URA_PCH if provided in SIB4, otherwise Treselection_s shall be used.

$\text{Treselection}_{s,\text{FACH}}$

This specifies the cell reselection timer value the UE shall use in RRC connected mode state CELL_FACH if provided in SIB4, otherwise Treselection_s shall be used.

Summary of change: ☞ 2 cell update test cases are added to the test specification:

<ul style="list-style-type: none"> • 8.3.1.38 <i>Cell Update: state specific handling of Tselection and Qhyst for cell reselection in CELL_FACH</i> This test verifies that the UE correctly uses the information provided in SIB4 to perform cell reselection calculation in CELL_FACH state. • 8.3.1.39 <i>Cell Update: state specific handling of Tselection and Qhyst for cell reselection in CELL_PCH</i> This test verifies that the UE correctly uses the information provided in SIB4 to perform cell reselection calculation in CELL_PCH state.
Consequences if not approved: ☞ This feature of the UE will remain untested.

Clauses affected: ☞ 8.3.1.38 (new), 8.3.1.39 (new)														
<table border="1"> <tr> <td></td> <td>Y</td> <td>N</td> <td></td> </tr> <tr> <td rowspan="3">Other specs affected:</td> <td>☞</td> <td>X</td> <td>Other core specifications ☞</td> </tr> <tr> <td></td> <td>X</td> <td>Test specifications 34.123-2</td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> </tr> </table>		Y	N		Other specs affected:	☞	X	Other core specifications ☞		X	Test specifications 34.123-2		X	O&M Specifications
	Y	N												
Other specs affected:	☞	X	Other core specifications ☞											
		X	Test specifications 34.123-2											
		X	O&M Specifications											
Other comments: ☞ Affects Rel-5 UE's														

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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.

8.3.1.38 Cell Update: state specific handling of $T_{\text{reselection}}$ and Q_{hyst} for cell reselection in CELL_FACH

8.3.1.38.1 Conformance requirement

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{\text{meas},s} + Q_{\text{hyst}}_s$$

$$R_n = Q_{\text{meas},n} - Q_{\text{offset},s,n} - TO_n * (1 - L_n)$$

The cells shall be ranked according to the R criteria specified above, deriving $Q_{\text{meas},n}$ and $Q_{\text{meas},s}$ and calculating the R values using CPICH RSCP, P-CCPCH RSCP and the averaged received signal level as specified in [10] and [11] for FDD, TDD and GSM cells, respectively.

The offset $Q_{\text{offset}1_{s,n}}$ is used for $Q_{\text{offset},s,n}$ to calculate R_n , the hysteresis $Q_{\text{hyst}1_s}$ is used for Q_{hyst}_s to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}1_{s,PCH}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}1_{s,FACH}}$ to calculate R_s , if provided in SIB4 [see 4].

If an FDD cell is ranked as the best cell and the quality measure for cell selection and re-selection is set to CPICH Ec/No, the UE shall perform a second ranking of the FDD cells according to the R criteria specified above, but using the measurement quantity CPICH Ec/No for deriving the $Q_{\text{meas},n}$ and $Q_{\text{meas},s}$ and calculating the R values of the FDD cells. The offset $Q_{\text{offset}2_{s,n}}$ is used for $Q_{\text{offset},s,n}$ to calculate R_n , the hysteresis $Q_{\text{hyst}2_s}$ is used for Q_{hyst}_s to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}2_{s,PCH}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst}_s takes the value $Q_{\text{hyst}2_{s,FACH}}$ to calculate R_s , if provided in SIB4 [see 4]. If the usage of HCS is indicated in system information, TEMP_OFFSET2_n is used 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 . Following this second ranking, the UE shall perform cell re-selection to the best ranked FDD cell.

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

- the new cell is better ranked than the serving cell during a time interval $T_{\text{reselection}}$. For UE in RRC connected mode states CELL_PCH or URA_PCH the interval $T_{\text{reselection},s,PCH}$ applies, if provided in SIB4 [see 4], while for UE in RRC connected mode state CELL_FACH the interval $T_{\text{reselection},s,FACH}$ applies, if provided in SIB4 [see 4]. For hierarchical cell structures when high mobility state has not been detected, if according to the HCS rules the serving cell is not ranked then all the ranked cells are considered to be better ranked than the serving cell.

$Q_{\text{hyst}1_{s,FACH}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode state CELL_FACH. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP. If this parameter is not provided in SIB4, $Q_{\text{hyst}1_s}$ shall be used.

$Q_{\text{hyst}2_{s,FACH}}$

This specifies the hysteresis value (Q_{hyst}) to be used in RRC connected mode state CELL_FACH. It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No. If this parameter is not provided in SIB4, $Q_{\text{hyst}2_s}$ shall be used.

$T_{\text{reselection},s,FACH}$

This specifies the cell reselection timer value the UE shall use in RRC connected mode state CELL_FACH if provided in SIB4, otherwise $T_{\text{reselection},s}$ shall be used.

A UE shall initiate the cell update procedure in the following cases:

...

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

the UE shall:

...

1> in case of a cell update procedure:

2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL_UPDATE_CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry.

...

1> transmit a response message as specified in TS 25.331 subclause 8.3.1.7;

...

Reference

3GPP TS 25.304 clause 5.2.6.1.4

3GPP TS 25.304 clause 5.4.3

3GPP TS 25.331 clause 8.3.1

8.3.1.38.2 Test purpose

1. To confirm that the UE uses the correct SIB 4 IEs to perform cell reselection calculation in CELL_FACH.

8.3.1.38.3 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 4 are active.

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

Test Procedure

Table 8.3.1.38

Parameter	Unit	Cell 1			Cell 4		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 2		
CPICH Ec (FDD)	dBm /3.8 4 MHz	-60	-67	-82	OFF	-60	-60

Table 8.3.1.38 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. SS switches the power settings to columns "T1" and "T2", when the description below specifies.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.38. The UE shall remain on cell 1 even after expiry of Treselecion. SS configures its downlink transmission power settings according to columns "T2" in table 8.3.1.38. The UE shall find cell 4 to be more suitable for service after expiry of Treselection, and shall transmit a CELL_UPDATE message to the SS on the uplink CCCH of cell 4 and set IE "Cell update cause" to "Cell Reselection". SS checks this is received after expiry of Treselection. After the SS receives this message, it transmits a CELL_UPDATE_CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", and a valid IE "New C-RNTI", to the UE on the downlink DCCH. UE responds with UTRAN_MOBILITY_INFORMATION_CONFIRM message.. UE shall stay in CELL_FACH state. SS calls for generic procedure C.2 to check that UE is in CELL_FACH 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

<u>Step</u>	<u>Direction</u>		<u>Message</u>	<u>Comment</u>
	<u>UE</u>	<u>SS</u>		
<u>1</u>				<u>The UE is in the CELL_FACH state in cell 1</u>
<u>2</u>				<u>SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.3.1.38. SS checks that no message is received even after expiry of Tselection.</u>
<u>3</u>				<u>SS applies the downlink transmission power settings, according to the values in columns "T2" of table 8.3.1.38. The UE shall find that the cell 4 is better for service and perform a reselection. SS checks that no message is received until Tselection expires.</u>
<u>4</u>		<u>→</u>	<u>CELL UPDATE</u>	<u>Value "cell reselection" shall be indicated in IE "Cell update cause"</u>
<u>5</u>		<u>←</u>	<u>CELL UPDATE CONFIRM</u>	<u>IE "RRC State Indicator" is set to "CELL_FACH".</u>
<u>6</u>		<u>→</u>	<u>UTRAN MOBILITY INFORMATION CONFIRM</u>	
<u>7</u>		<u>↔</u>	<u>CALL C.2</u>	<u>If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.</u>

Specific Message Contents

System Information Block type 4 (FDD)

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

<u>Information Element</u>	<u>Value/remark</u>
- Cell selection and re-selection info	
- CHOICE mode	FDD
- s-Intersearch	Not Present
- Qqualmin	-24 dB
- Qrxlevmin	-115 dBm
- Qhyst1 _s	0 dB
- Qhyst1 _{s,FACH}	14 dB
- Treselection _{s,FACH}	6 seconds

System Information Block type 11 (FDD)

Use the same message type found in clause 6.1 of TS 34.108, with the following exceptions:

<u>Information Element</u>	<u>Value/remark</u>
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	<u>2</u>
- Inter-frequency FDD measurement indicator	<u>TRUE</u>
- Inter-frequency TDD measurement indicator	<u>FALSE</u>
- Inter-RAT measurement indicators	<u>Not Present</u>

CELL UPDATE (Step 3)

The same message found in TS 34.108, clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

<u>Information Element</u>	<u>Value/remark</u>
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 4)

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

<u>Information Element</u>	<u>Value/remark</u>
New C-RNTI	'1010 1010 1010 1010'

8.3.1.38.4 Test requirement

At step 2 no cell update is received, even after expiry of Treselection

At step 3 no cell update is received until after Treselection has expired.

At step 4 the UE shall reselect to cell 4 and then it shall transmit a CELL UPDATE message which sets the value "cell reselection" in IE "Cell update cause".

8.3.1.39 Cell Update: state specific handling of T_{reselection} and Q_{hyst} for cell reselection in CELL_PCH

8.3.1.39.1 Conformance requirement

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{\text{meas},s} + Q_{\text{hyst}_s}$$

$$R_n = Q_{\text{meas},n} - Q_{\text{offset}_{s,n}} - TO_n * (1 - L_n)$$

The cells shall be ranked according to the R criteria specified above, deriving $Q_{\text{meas},n}$ and $Q_{\text{meas},s}$ and calculating the R values using CPICH RSCP, P-CCPCH RSCP and the averaged received signal level as specified in [10] and [11] for FDD, TDD and GSM cells, respectively.

The offset $Q_{\text{offset}_{1s,n}}$ is used for $Q_{\text{offset}_{s,n}}$ to calculate R_n , the hysteresis $Q_{\text{hyst}_{1s}}$ is used for Q_{hyst_s} to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst_s} takes the value $Q_{\text{hyst}_{1s,PCH}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst_s} takes the value $Q_{\text{hyst}_{1s,FACH}}$ to calculate R_s , if provided in SIB4 [see 4].

If an FDD cell is ranked as the best cell and the quality measure for cell selection and re-selection is set to CPICH Ec/No, the UE shall perform a second ranking of the FDD cells according to the R criteria specified above, but using the measurement quantity CPICH Ec/No for deriving the $Q_{\text{meas},n}$ and $Q_{\text{meas},s}$ and calculating the R values of the FDD cells. The offset $Q_{\text{offset}_{2s,n}}$ is used for $Q_{\text{offset}_{s,n}}$ to calculate R_n , the hysteresis $Q_{\text{hyst}_{2s}}$ is used for Q_{hyst_s} to calculate R_s . For UE in RRC connected mode states CELL_PCH or URA_PCH the hysteresis Q_{hyst_s} takes the value $Q_{\text{hyst}_{2s,PCH}}$ to calculate R_s , if provided in SIB4 [see 4]. For UE in RRC connected mode state CELL_FACH the hysteresis Q_{hyst_s} takes the value $Q_{\text{hyst}_{2s,FACH}}$ to calculate R_s , if provided in SIB4 [see 4]. If the usage of HCS is indicated in system information, TEMP_OFFSET $_n$ is used 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 . Following this second ranking, the UE shall perform cell re-selection to the best ranked FDD cell.

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

- the new cell is better ranked than the serving cell during a time interval $T_{\text{reselection}}$. For UE in RRC connected mode states CELL_PCH or URA_PCH the interval $T_{\text{reselection}_{s,PCH}}$ applies, if provided in SIB4 [see 4], while for UE in RRC connected mode state CELL_FACH the interval $T_{\text{reselection}_{s,FACH}}$ applies, if provided in SIB4 [see 4]. For hierarchical cell structures when high mobility state has not been detected, if according to the HCS rules the serving cell is not ranked then all the ranked cells are considered to be better ranked than the serving cell.

$Q_{\text{hyst}_{1s,PCH}}$

This specifies the hysteresis value (Qhyst) to be used in RRC connected mode states CELL_PCH and URA_PCH. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP. If this parameter is not provided in SIB4, $Q_{\text{hyst}_{1s}}$ shall be used.

$Q_{\text{hyst}_{2s,PCH}}$

This specifies the hysteresis value (Qhyst) to be used in RRC connected mode states CELL_PCH and URA_PCH. It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No. If this parameter is not provided in SIB4, $Q_{\text{hyst}_{2s}}$ shall be used.

$T_{\text{reselection}_{s,PCH}}$

This specifies the cell reselection timer value the UE shall use in RRC connected mode states CELL_PCH and URA_PCH if provided in SIB4, otherwise $T_{\text{reselection}_s}$ shall be used.

A UE shall initiate the cell update procedure in the following cases:

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

- 3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or
- 3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:
 - 4> perform cell update using the cause "cell reselection".

the UE shall:

1> in case of a cell update procedure:

2> set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL_UPDATE_CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry.

1> transmit a response message as specified in TS 25.331 subclause 8.3.1.7;

Reference

- 3GPP TS 25.304 clause 5.2.6.1.4
- 3GPP TS 25.304 clause 5.4.3
- 3GPP TS 25.331 clause 8.3.1

8.3.1.39.2 Test purpose

1. To confirm that the UE uses the correct SIB 4 IEs to perform cell reselection calculation in CELL_PCH.

8.3.1.39.3 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and 4 are active.
UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.3.1.39

Parameter	Unit	Cell 1			Cell 4		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 2		
CPICH Ec (FDD)	dBm /3.8 4 MHz	-60	-67	-82	OFF	-60	-60

Table 8.3.1.39 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. SS switches the power settings to columns "T1" and "T2", when the description below specifies. The UE is brought to CELL_PCH state and is camped onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.39. The UE shall remain on cell 1 even after expiry of Treselecion. SS configures its downlink transmission power settings according to columns "T2" in table 8.3.1.39. The UE shall find cell 4 to be more suitable for service after expiry of Treselection, and shall transmit a CELL_UPDATE message to the SS on the uplink CCCH of cell 4 and set IE "Cell update cause" to "Cell Reselection". SS checks this is received after expiry of Treselection. Upon reception of CELL_UPDATE message, SS replies with a CELL

UPDATE CONFIRM message with the IE "RRC State Indicator" set to "CELL_PCH". After receiving this message, the UE returns to CELL_PCH state without transmitting any uplink message. SS calls for generic procedure C.4 to check that UE is in CELL_PCH 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 brought to CELL_PCH state in cell 1
2				SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.3.1.39. SS checks that no message is received even after expiry of Treselection.
3				SS applies the downlink transmission power settings, according to the values in columns "T2" of table 8.3.1.39. The UE shall find that the cell 4 is better for service and perform a reselection. SS checks that no message is received until Treselection expires.
4		→	<u>CELL UPDATE</u>	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection"
5		←	<u>CELL UPDATE CONFIRM</u>	IE "RRC State Indicator" is set to "CELL_PCH".
6		↔	<u>CALL C.4</u>	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 4 (FDD)

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

<u>Information Element</u>	<u>Value/remark</u>
- <u>Cell selection and re-selection info</u>	
- <u>CHOICE mode</u>	FDD
- <u>s-Intersearch</u>	Not Present
- <u>Qqualmin</u>	-24 dB
- <u>Qrxlevmin</u>	-115 dBm
- <u>Qhyst1_s</u>	0 dB
- <u>Qhyst1_{s,PCH}</u>	14 dB
- <u>Treselection_{s,PCH}</u>	15 seconds

CELL UPDATE (Steps 3)

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

<u>Information Element</u>	<u>Value/remark</u>
<u>Cell Update Cause</u>	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 4)

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

<u>Information Element</u>	<u>Value/remark</u>
<u>RRC State Indicator</u>	CELL_PCH
<u>UTRAN DRX cycle length coefficient</u>	3

8.3.1.39.4 Test requirement

At step 2 no cell update is received, even after expiry of Treselection

At step 3 no cell update is received until after Treselection has expired.

At step 4 the UE shall reselect to cell 4 and then it shall transmit a CELL UPDATE message which sets the value "cell reselection" in IE "Cell update cause".

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

Tdoc **R5-050944**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1177 ⌘ 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 Package 3 RRC test case 8.3.1.23		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 25/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ a) The R value for Cell 2 at T2 during penalty time is not correct. The R value must be -Inf based on the following calculation At T2 Cell B is the neighbour Cell (-70dBm) ===== During Penalty time $R_n = Q_{meas} - Q_{offset} - T_{0n} (1 - L_n)$ $L_n = 0$ (Priority for the serving Cell Cell C and Cell B are the same=7) $T_{0n} = Temp_Offset = Inf$ Therefore $R_n = Q_{meas} - Q_{offset} - Inf = -Inf$ Once the SS power is changed at T2 in step 7, the UE should not reselect to Cell2 immediately, Cell 2 will have a better ranking only after the expiry of penalty time. Therefore reselection should take place after the penalty time has expired. b) In SIB 11 settings for HCS Cells, q_HCS is given as 40 (-75dbm). Penalty timer for a cell is started when $Q_{meas} > q_HCS$. Power level settings for neighbour Cells specified as -70 dbm. Considering the SS Limitations, the received power level is very close to the borderline where the penalty timer can start /stop and trigger the cell update procedure. To improve the reliability of the test case, the power level of cell 3 at instant T0 and that of cell 2 at
---------------------------	--

instant T0 and T1 is modified to -82 dbm and power level of cell 2 at instant T2 and that of cell 3 at time instant T1 and T2 is changed to -68 dbm, so that the cell power levels maintain a distance of 7 db from the Q_{hcs} at all times.

c) In the specific message contents for system information block type 4, the IE S_{limit,SearchRAT} is mentioned as Not present, however as per 25.331, section 10.3.2.3 the IE is mentioned as a mandatory parameter.

d) The value of the “H” for cell 1 during the penalty time at time instant T2 should be “-inf” instead of “5”.

Summary of change: ☞ Following changes are made to the test specification:

- a) Corrected table 8.3.1.23-1 with the correct R value. Added clarification in Test procedure and the expected sequence to take into account the penalty time expiry.
- b) Updated table 8.3.1.23-1 as per the new power levels.
- c) Changed the value of the IE S_{limit,SearchRAT} from “Not present” to 0 in specific message contents for system information block type 4.
- d) The value of the “H” for cell 1 during the penalty time at time instant T2 is changed to “-inf” in the table 8.3.1.23-1.

Consequences if not approved: ☞ The test case will fail a conformant UE.

Clauses affected: ☞ 8.3.1.23.4

	Y	N		
Other specs Affected:	☞	X	Other core specifications	☞
		X	Test specifications	
		X	O&M Specifications	

Other comments: ☞ This change 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 >>

8.3.1.23 Cell Update: HCS cell reselection in CELL_FACH

8.3.1.23.1 Definition

8.3.1.23.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is defined by:

$$H_s = Q_{meas,s} - Q_{hcs_s}$$

$$H_n = Q_{meas,n} - Q_{hcs_n} - TO_n * L_n$$

...

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{meas,s} + Q_{hyst_s}$$

$$R_n = Q_{meas,n} - Q_{offset_{s,n}} - TO_n * (1 - L_n)$$

where:

$$TO_n = TEMP_OFFSET_n * W(PENALTY_TIME_n - T_n)$$

$$L_n = 0 \quad \text{if } HCS_PRIO_n = HCS_PRIO_s$$

$$L_n = 1 \quad \text{if } HCS_PRIO_n <> HCS_PRIO_s$$

$$W(x) = 0 \quad \text{for } x < 0$$

$$W(x) = 1 \quad \text{for } x >= 0$$

TEMP_OFFSET_n applies an offset to the H and R criteria for the duration of PENALTY_TIME_n after a timer T_n has started for that neighbouring cell.

The timer T_n is implemented for each neighbouring cell. T_n shall be started from zero when one of the following conditions becomes true:

- if HCS_PRIO_n <> HCS_PRIO_s and

$$Q_{meas,n} > Q_{hcs_n}$$

Or

- if HCS_PRIO_n = HCS_PRIO_s and

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH RSCP in the serving cell, and:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset_{s,n}}$$

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH Ec/No in the serving cell, and:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}2_{s,n}}$$

- for all other serving and neighbour cells:

$$Q_{\text{meas},n} > Q_{\text{meas},s} + Q_{\text{offset}1_{s,n}}$$

T_n for the associated neighbour cell shall be stopped as soon as any of the above conditions are no longer fulfilled. Any value calculated for TO_n is valid only if the associated timer T_n is still running else TO_n shall be set to zero.

At cell-reselection, a timer T_n is stopped only if the corresponding cell is not a neighbour cell of the new serving cell, or if the criteria given above for starting timer T_n for the corresponding cell is no longer fulfilled with the parameters of the new serving cell. On cell re-selection, timer T_n shall be continued to be run for the corresponding cells but the criteria given above shall be evaluated with parameters broadcast in the new serving cell if the corresponding cells are neighbours of the new serving cell.

...

3. The cell selection criterion S used for cell reselection is fulfilled when:

for FDD cells:	$S_{\text{rxlev}} > 0$ AND $S_{\text{qual}} > 0$
for TDD cells:	$S_{\text{rxlev}} > 0$
for GSM cells:	$S_{\text{rxlev}} > 0$

Where :

$S_{\text{qual}} = Q_{\text{qualmeas}} - Q_{\text{qualmin}}$
$S_{\text{rxlev}} = Q_{\text{rxlevmeas}} - Q_{\text{rxlevmin}} - P_{\text{compensation}}$

...

4. 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 $H \geq 0$. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion $H \geq 0$. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

The cells shall be ranked according to the R criteria.

The best ranked cell is the cell with the highest R value.

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

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

- the new cell is better ranked than the serving cell during a time interval $T_{\text{reselection}}$.
- more than 1 second has elapsed since the UE camped on the current serving cell.

...

6. The *cell reselection* process in Connected Mode is the same as *cell reselection evaluation process* used for idle mode, described in subclause 5.2.6 of 25.304.

7. A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

...

1> Re-entering service area:

...

1> RLC unrecoverable error:

...

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

Reference

3GPP TS 25.304 clause 5.2.6.1.4

3GPP TS 25.304 clause 5.4.3

3GPP TS 25.331 clause 8.3.1

8.3.1.23.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters in CELL_FACH state.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell in CELL_FACH state.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.23.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To in Table 8.3.1.23-1. Cell 2 and 3 are switched off.

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

Specific Message Content

For system information blocks 4 and 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.

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell selection and re-selection info	FDD
- CHOICE mode	0 dB
- Sintersearch	35 dB
- SsearchHCS	This parameter is configurable
- RAT List	Not Present <u>0</u>
- S _{limit,SearchRAT}	-20 dB
- Qqualmin	-115 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- Qhyst1s	0 dB
- Qhyst2s	
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell selection and re-selection info	TDD
- CHOICE mode	47 dB
- SsearchHCS	This parameter is configurable
- RAT List	-103 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- Qhyst1s	
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	Used
- Use of HCS	
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- 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.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	Inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	Inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	Used
- Use of HCS	Used
- Intra-frequency cell info list	1
- New intra-frequency cells	1
- Intra-frequency cell id	1
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	40
- Penalty Time	40
- Temporary Offset	Inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	40
- Penalty Time	40
- Temporary Offset	Inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.23-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
Cell id in system information		1			2			3		
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm /3.84 MHz	-60	-60	-60	-80 <u>-82</u>	-80 <u>-82</u>	-70 <u>-68</u>	-80 <u>-82</u>	-70 <u>-68</u>	-70 <u>-68</u>
P-CCPCH RSCP (TDD)	dBm	-60	-60	-60	-80	-80	-70	-80	-70	-70
H* (During penalty time)		15	15	5 <u>-inf</u>	-inf	-inf	5 <u>7</u>	-inf	-inf	5 <u>7</u>
H* (After PenaltyTime)		15	15	15	5 <u>-7</u>	5 <u>-7</u>	5 <u>7</u>	5 <u>-7</u>	5 <u>7</u>	5 <u>7</u>
R* (During PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50 <u>-inf</u>	n.a.	n.a.	-60 <u>-58</u>
R* (After PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50 <u>-48</u>	n.a.	n.a.	-60 <u>-58</u>

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "T0" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.23-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. UE shall stay in CELL_FACH state. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.23-1. The UE shall find cell 2 to be more suitable for service after the expiry of the penalty time and hence perform a cell reselection to cell 2 after the power levels have been changed. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. UE shall stay in CELL_FACH 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_FACH state in cell 1
2	←	BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.23-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_FACH State
3			SS changes the power levels as per column 'T1' in the table 8.3.1.23-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4	→	CELL UPDATE	Value "cell reselection" shall be indicated in IE "Cell update cause" Received in Cell 3
5	←	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
6	→	UTRAN MOBILITY INFORMATION CONFIRM	
7			SS changes the power levels as per column 'T2' in the table 8.3.1.23-1. For the time equal to penalty time of 40 seconds, after the change in power levels, the UE shall still find cell 3 as best for service and remain in Cell 3. After penalty time of 40 seconds. UE shall find Cell 2 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
8	→	CELL UPDATE	Received in Cell 2
9	←	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
10	→	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

The contents of system information block 4 and 11 messages are identical as system information block 4 and 11 messages as found in 34.108 clause 6.1 with the following exceptions:

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	FDD
- CHOICE mode	0 dB
- Sintersearch	35 dB
- SsearchHCS	This parameter is configurable
- RAT List	Not Present <u>0</u>
- S _{limit,SearchRAT}	-20 dB
- Qqualmin	-115 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- Qhyst1s	0 dB
- Qhyst2s	
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	TDD
- CHOICE mode	0 dB
- Sintersearch	47 dB
- SsearchHCS	This parameter is configurable
- RAT List	-103 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- Qhyst1s	
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	used
- Use of HCS	
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- 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.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset1 _{s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	used
- Use of HCS	used
- Intra-frequency cell info list	2
- New intra-frequency cells	2
- Intra-frequency cell id	2
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
- Q _{HCS}	39 (results in actual value of -75)
-HCS Cell Reselection Information	40
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	Not Present
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	TDD
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	40
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- 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.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset1 _{s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
- Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1 _{s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q _{HCS}	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	used
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	3
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 9)

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

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

8.3.1.23.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

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

After step 7 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 9 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

<< END OF THE MODIFIED SECTION >>

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

Tdoc **R5-050945**

CR-Form-v7
CHANGE REQUEST
⌘ 34.123-1 CR 1178 ⌘ 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 Package 3 RRC test case 8.3.1.24		
Source:	⌘ 3GPP TSG RAN WG5 (Testing)		
Work item code:	⌘ TEI	Date:	⌘ 27/04/2005
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ a)b) In SIB4 and SIB11, q_HCS is given as 40 (- 75dbm). UE will start the penalty timer for a cell when Qmeas > q_HCS As per table 8.3.1.24-1, the power level of the neighbouring Cells should be set to -70 dbm. Taking into account the UE and SS tolerances, the received power level can be very close to the boundary of the above condition. Due to this the penalty timer can start / stop and trigger a cell update procedure. To improve the reliability of the test case, the power level of cell 3 at instant T0 and that of cell 2 at instant T0 and T1 is modified to -82 dBm and power level of cell 2 at instant T2 and that of cell 3 at time instant T1 and T2 is changed to -68 dBm, so that the cell power levels maintain a distance of 7 db from the Q_hcs at all times ⌘ b)d) In the specific message contents for SIB4, the IE S _{limit,SearchRAT} is mentioned as Not present. However as per 25.331 section 10.3.2.3 this IE is a mandatory parameter. ⌘ e)e) The value of the “H” for cell 1 during the penalty time at time instant T2 should be -infinity instead of 5. This is as per the following equation: $H_n = Q_{meas,n} - Q_{hcs_n} - TO_n * L_n$
Summary of change:	⌘ Following changes are made to section 8.3.1.24.4

a)c) Updated power levels for Cell 1,2 and 3 at time instance T0, T1 and T2 in the table 8.3.1.24-1 and accordingly updated the H*, R* value.

b)d) Changed the value of the IE $S_{limit,SearchRAT}$ from “Not present” to “0” in specific message contents for SIB4.

e)e) Updated the value of “H” to –infinity for Cell 1 and time instant T2

Consequences if not approved: ⓘ The test case will fail a conformant UE.

Clauses affected: ⓘ 8.3.1.24.4

	Y	N		ⓘ
Other specs Affected:		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⓘ This change aligns the TTCN with the 34.123-1.

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 THE MODIFIED SECTION >>

8.3.1.24 Cell Update: HCS cell reselection in CELL_PCH

8.3.1.24.1 Definition

8.3.1.24.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is defined by:

$$H_s = Q_{\text{meas},s} - Q_{\text{hcs}_s}$$

$$H_n = Q_{\text{meas},n} - Q_{\text{hcs}_n} - TO_n * L_n$$

...

2. The cell-ranking criterion R is defined by:

$$R_s = Q_{\text{meas},s} + Q_{\text{hyst}_s}$$

$$R_n = Q_{\text{meas},n} - Q_{\text{offset}_{s,n}} - TO_n * (1 - L_n)$$

where:

$$TO_n = \text{TEMP_OFFSET}_n * W(\text{PENALTY_TIME}_n - T_n)$$

$$L_n = 0 \quad \text{if } \text{HCS_PRIO}_n = \text{HCS_PRIO}_s$$

$$L_n = 1 \quad \text{if } \text{HCS_PRIO}_n < \text{HCS_PRIO}_s$$

$$W(x) = 0 \quad \text{for } x < 0$$

$$W(x) = 1 \quad \text{for } x \geq 0$$

TEMP_OFFSET_n applies an offset to the H and R criteria for the duration of PENALTY_TIME_n after a timer T_n has started for that neighbouring cell. The timer T_n is implemented for each neighbouring cell. T_n shall be started from zero when one of the following conditions becomes true:

- if $\text{HCS_PRIO}_n < \text{HCS_PRIO}_s$ and

$$Q_{\text{meas},n} > Q_{\text{hcs}_n}$$

Or

- if $\text{HCS_PRIO}_n = \text{HCS_PRIO}_s$ and
- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH RSCP in the serving cell, and:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset1_{s,n}}$$

- for serving FDD and neighbour FDD cells if the quality measure for cell selection and reselection is set to CPICH Ec/No in the serving cell, and:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset2_{s,n}}$$

- for all other serving and neighbour cells:

$$Q_{meas,n} > Q_{meas,s} + Q_{offset1_{s,n}}$$

T_n for the associated neighbour cell shall be stopped as soon as any of the above conditions are no longer fulfilled. Any value calculated for TO_n is valid only if the associated timer T_n is still running else TO_n shall be set to zero.

At cell-reselection, a timer T_n is stopped only if the corresponding cell is not a neighbour cell of the new serving cell, or if the criteria given above for starting timer T_n for the corresponding cell is no longer fulfilled with the parameters of the new serving cell. On cell re-selection, timer T_n shall be continued to be run for the corresponding cells but the criteria given above shall be evaluated with parameters broadcast in the new serving cell if the corresponding cells are neighbours of the new serving cell.

...

3. The cell selection criterion S used for cell reselection is fulfilled when:

for FDD cells:	$Srxlev > 0$ AND $Squal > 0$
for TDD cells:	$Srxlev > 0$
for GSM cells:	$Srxlev > 0$

Where :

$Squal = Q_{qualmeas} - Q_{qualmin}$
$Srxlev = Q_{rxlevmeas} - Q_{rxlevmin} - P_{compensation}$

...

4. 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 $H \geq 0$. Note that this rule is not valid when UE high-mobility is detected.
 - all cells, not considering HCS priority levels, if no cell fulfil the criterion $H \geq 0$. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

The cells shall be ranked according to the R criteria.

The best ranked cell is the cell with the highest R value.

5. 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.

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

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

...

6. The *cell reselection* process in Connected Mode is the same as *cell reselection evaluation process* used for idle mode, described in subclause 5.2.6 of 25.304.

7. A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

...

1> Paging response:

...

1> Radio link failure:

...

1> Re-entering service area:

...

1> RLC unrecoverable error:

...

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection;
or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

Reference

3GPP TS 25.304 clause 5.2.6.1.4

3GPP TS 25.304 clause 5.4.3

3GPP TS 25.331 clause 8.3.1

8.3.1.24.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters in CELL_PCH state.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell in CELL_PCH state.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.24.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To in table 8.3.1.24-1. Cell 2 and 3 are switched off.

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Specific Message Content

For system information blocks 4 and 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.

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell selection and re-selection info	FDD
- CHOICE mode	0 dB
- Sintersearch	35 dB
- SsearchHCS	This parameter is configurable
- RAT List	Not Present
- S _{limit,SearchRAT}	
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	5 (gives actual value of 10 dB)
- Qhyst2s	0 dB
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell selection and re-selection info	TDD
- CHOICE mode	47 dB
- SsearchHCS	This parameter is configurable
- RAT List	-103 dBm
- Qrxlevmin	5 (gives actual value of 1 dB)
- Qhyst1s	
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	Used
- Use of HCS	
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- 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.1 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	Inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB

- Qrxlevmin

-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
- Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
- Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.24-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
Cell id in system information		1			2			3		
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm/3.84 MHz	-60	-60	-60	-80 <u>-82</u>	-80 <u>-82</u>	-70 <u>-68</u>	-80 <u>-82</u>	-70 <u>-68</u>	-70 <u>-68</u>
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (During penalty time)		15	15	5 <u>-inf</u>	-inf	-inf	5 <u>7</u>	-inf	-inf	5 <u>7</u>
H* (After PenaltyTime)		15	15	15	-5 <u>-7</u>	-5 <u>-7</u>	5 <u>7</u>	-5 <u>-7</u>	5 <u>7</u>	5 <u>7</u>
R* (During PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-inf	n.a.	n.a.	-60 <u>-58</u>
R* (After PenaltyTime)		n.a.	n.a.	n.a.	n.a.	n.a.	-50 <u>-48</u>	n.a.	n.a.	-60 <u>-58</u>

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_PCH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "T0" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.24-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 and set IE "Cell update cause" to "Cell Reselection". After SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", to the UE on the downlink CCCH. UE shall return to CELL_PCH state in Cell 3 and will not transmit anything on PRACH. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.24-1. The UE shall find cell 2 to be more suitable for service after the expiry of penalty time and hence perform a cell reselection to cell 2 after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", to the UE on the downlink DCCH. UE shall return to CELL_PCH state in Cell 2 and will not transmit anything on PRACH.

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_PCH state in cell 1
2		←	BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.24-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_PCH State
3				SS changes the power levels as per column 'T1' in the table 8.3.1.24-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4		→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 3
5		←	CELL UPDATE CONFIRM	Message sent on CCCH with IE "RRC State Indicator" is set to "CELL_PCH".
7				SS changes the power levels as per column 'T2' in the table 8.3.1.24-1. SS Checks that no cell update message is received during penalty time as the UE shall find Cell 2 better for service and perform a reselection after the expiry of penalty time. SS waits for the maximum duration required for the UE to camp to cell 2.
8		→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 2
9		←	CELL UPDATE CONFIRM	Message sent on DCCH with IE "RRC State Indicator" is set to "CELL_PCH".

Specific Message Contents

The contents of system information block 4 and 11 messages are identical as system information block 4 and 11 messages as found in 34.108 clause 6.1 with the following exceptions:

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	FDD
- CHOICE mode	0 dB
- Sintersearch	35 dB
- SsearchHCS	This parameter is configurable
- RAT List	Not Present ₀
- S _{limit,SearchRAT}	-20 dB
- Qqualmin	-115 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- Qhyst1s	0 dB
- Qhyst2s	
- HCS Serving cell information	7
- HCS Priority	40 (results in actual value of -75)
- Q HCS	Not Present
- TcrMax	

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell selection and re-selection info	TDD
- CHOICE mode	0 dB
- Sintersearch	47 dB
- SsearchHCS	This parameter is configurable
- RAT List	-103 dBm
- Qrxlevmin	5 (gives actual value of 10 dB)
- HCS Serving cell information	
- HCS Priority	7
- Q HCS	40 (results in actual value of -75)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- 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.2 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB

- Qrxlevmin

-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset1s,n	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset1s,n	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency measurement system information	
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- 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.3 (FDD)" in clause 6.1.4
- Primary CPICH TX power	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- 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	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	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	Not Present
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	FDD
- Qqualmin	-20 dB

- Qrxlevmin	-115 dBm
-------------	----------

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- SIB 12 indicator	FALSE
- Measurement control system information	
- Use of HCS	used
- Intra-frequency cell info list	
- New intra-frequency cells	
- Intra-frequency cell id	3
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS34.108: Default settings for cell No.3 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	Not Present
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.1 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20 dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1.4 in TS 34.108: Default settings for cell No.2 (TDD)
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- Qoffset _{1s,n}	-20dB
- Maximum allowed UL TX power	30 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	40 (results in actual value of -75)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	inf
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in TS 34.108 clause 9 shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 8)

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

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.3.1.24.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 6 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

<< **END OF THE MODIFIED SECTION** >>