

TSG-RAN Meeting #16
Marco Island, FL, USA, 4 - 7 June 2002

RP-020333

Title: Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.331 (4)

Source: TSG-RAN WG2

Agenda item: 7.2.3

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-021431	agreed	25.331	1427	1	R99	Periodic cell update clarifications	F	3.10.0	3.11.0
R2-021432	agreed	25.331	1428	1	Rel-4	Periodic cell update clarifications	A	4.4.0	4.5.0
R2-021433	agreed	25.331	1429	1	Rel-5	Periodic cell update clarifications	A	5.0.0	5.1.0
R2-021322	agreed	25.331	1430		R99	Multiple cells triggering event 1D	F	3.10.0	3.11.0
R2-021323	agreed	25.331	1431		Rel-4	Multiple cells triggering event 1D	A	4.4.0	4.5.0
R2-021324	agreed	25.331	1432		Rel-5	Multiple cells triggering event 1D	A	5.0.0	5.1.0
R2-021331	agreed	25.331	1433		R99	Disjoint Active Sets in the Active Set Update procedure	F	3.10.0	3.11.0
R2-021332	agreed	25.331	1434		Rel-4	Disjoint Active Sets in the Active Set Update procedure	A	4.4.0	4.5.0
R2-021333	agreed	25.331	1435		Rel-5	Disjoint Active Sets in the Active Set Update procedure	A	5.0.0	5.1.0
R2-021334	agreed	25.331	1436		R99	Deletion on compressed mode patterns when moving to CELL_FACH state	F	3.10.0	3.11.0
R2-021335	agreed	25.331	1437		Rel-4	Deletion on compressed mode patterns when moving to CELL_FACH state	A	4.4.0	4.5.0
R2-021336	agreed	25.331	1438		Rel-5	Deletion on compressed mode patterns when moving to CELL_FACH state	A	5.0.0	5.1.0
R2-021344	agreed	25.331	1439		R99	TDD C-RNTI in Cell DCH	F	3.10.0	3.11.0
R2-021345	agreed	25.331	1440		Rel-4	TDD C-RNTI in Cell DCH	A	4.4.0	4.5.0
R2-021346	agreed	25.331	1441		Rel-5	TDD C-RNTI in Cell DCH	A	5.0.0	5.1.0
R2-021347	agreed	25.331	1442		R99	CCTrCH Release in TDD	F	3.10.0	3.11.0
R2-021472	agreed	25.331	1443	1	Rel-4	CCTrCH Release in TDD	A	4.4.0	4.5.0
R2-021473	agreed	25.331	1444	1	Rel-5	CCTrCH Release in TDD	A	5.0.0	5.1.0

CHANGE REQUEST

⌘ **25.331 CR 1427** ⌘ rev **r1** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ Periodic cell update clarifications		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ In section 8.3.3.3 <i>Reception of UTRAN MOBILITY INFORMATION message by the UE</i> , it is stated that: "The UE shall: ... for each updated timer value: start using the new value next time the timer is started". If the old value of timer T305 is "infinity", i.e. if periodic cell update is disabled, the UE will wait forever before using the new value of T305. This means that it is not possible to re-enable periodic cell update once it has been disabled, unless the UE performs a cell reselection.
Summary of change:	⌘ A note is added to indicate that if the old value of timer T305 is "infinity", the UE will not use a new value of the timer T305 until the next cell reselection. Note that T316 is the only other timer that can be set to the value "infinity", but T316 is only applicable to CELL_PCH and URA_PCH states, and UTRAN MOBILITY INFORMATION message can not be received in those states. This change may only affect UTRAN implementations. This change should not affect existing test procedures, since section 8.3.1.3 <i>Cell Update: periodical cell update in CELL_FACH</i> of TS 34.123-1 has already been corrected accordingly. Isolated Impact Change Analysis. This change clarifies the periodic cell update procedure. It would not affect implementations behaving like indicated in the CR.
Consequences if not approved:	⌘ Unclear specifications, that may lead UTRAN implementations to assume that the UE in CELL_FACH is using a new value of the timer T305 (periodic cell update), while the periodic cell update is still disabled in the UE. This may lead UTRAN to erroneously deduce that the UE has been lost.

Clauses affected: ⌘ 8.1.3.6, 8.2.2.3, 8.3.3.3

Other specs	⌘	Other core specifications	⌘	25.331 v4.4.0, CR 1428r1 25.331 v5.0.0, CR 1429r1
affected:		Test specifications		
		O&M Specifications		
Other comments:	⌘	A detailed description of the issue is included in R2-020759 "Periodic cell update clarifications", Qualcomm		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

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

If the values are different, the UE shall:

- 1> ignore the rest of the message.

If the values are identical, the UE shall:

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

- 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:

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

- 4> select a suitable UTRA cell according to [4] on that frequency;

- 3> select PRACH according to subclause 8.5.17;

- 3> select Secondary CCPCH according to subclause 8.5.19;

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

- 1> perform the physical layer synchronization procedure as specified in [29];

- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;

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

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

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

- 3> clear that entry.

- 2> if the USIM or SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then

- 3> set the START value stored in the USIM [50] if present, and as stored in the UE if the SIM is present for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.

- 2> if neither the USIM nor SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;

- 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].

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

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

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

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

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

1> if the UE has entered CELL_FACH state:

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

1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;

1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;

1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

1> set the variable ORDERED_RECONFIGURATION to TRUE;

1> perform the physical layer synchronisation procedure as specified in [29];

1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS ~~system information block type 1;~~

- 1> select PRACH according to subclause 8.5.17;

- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;
 - 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;

- 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers:
 - 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - 2> if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - 3> if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].

- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS~~system information block type 1;~~
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

[...]

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

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

- 1> act on received information elements as specified in 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;

NOTE: If a new value of timer T305 is included in the IE "UE Timers and constants in connected mode", and the old value of timer T305 is "infinity", the UE will not use the new value of the timer T305 until the next cell reselection.

- 2> for each updated constant value:
 - 3> start using the new value directly;
- 1> if the IE "CN domain specific DRX cycle length coefficient" is present:
 - 2> store the value of the IE "CN domain specific DRX cycle length coefficient" for that CN domain, replacing any previously stored value; and
 - 2> use the value to determine the connected mode paging occasions according to [4].
- 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> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected";
- 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> include the IE "RB with PDCP information list" in the UTRAN MOBILITY INFORMATION CONFIRM message and set it to the value of the variable PDCP_SN_INFO.
- 1> if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;
- 1> if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> if the IE "Downlink counter synchronisation info" was included in the received UTRAN MOBILITY INFORMATION message:
 - 2> when RLC has confirmed the successful transmission of the response message:
 - 3> re-establish all AM and UM RLC entities with RB identities larger than 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the corresponding CN domain;

- 3> re-establish the RLC entities with RB identities 1, 3 and 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - 3> set the remaining bits of the HFN values of all UM RLC entities to zero;
 - 3> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in [36].
- 1> if the variable PDCP_SN_INFO is empty; and
 - 2> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 3> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
 - 2> if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":
 - 3> when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
 - 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:
 - 3> for each radio bearer in the variable PDCP_SN_INFO:
 - 4> if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - 5> configure the RLC entity for that radio bearer to "continue".
 - 3> clear the variable PDCP_SN_INFO.
 - 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 2> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 2> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":
 - 2> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;
 - 2> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
 - 1> clear the variable SECURITY_MODIFICATION.

The procedure ends.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1428** ⌘ rev **r1** ⌘ Current version: **4.4.0** ⌘

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

Title:	⌘ Periodic cell update clarifications		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ In section 8.3.3.3 *Reception of UTRAN MOBILITY INFORMATION message by the UE*, it is stated that: "The UE shall: ... for each updated timer value: start using the new value next time the timer is started". If the old value of timer T305 is "infinity", i.e. if periodic cell update is disabled, the UE will wait forever before using the new value of T305. This means that it is not possible to re-enable periodic cell update once it has been disabled, unless the UE performs a cell reselection.

Summary of change: ⌘ A note is added to indicate that if the old value of timer T305 is "infinity", the UE will not use a new value of the timer T305 until the next cell reselection.

Note that T316 is the only other timer that can be set to the value "infinity", but T316 is only applicable to CELL_PCH and URA_PCH states, and UTRAN MOBILITY INFORMATION message can not be received in those states.

This change may only affect UTRAN implementations.

This change should not affect existing test procedures, since section 8.3.1.3 *Cell Update: periodical cell update in CELL_FACH* of TS 34.123-1 has already been corrected accordingly.

Isolated Impact Change Analysis.

This change clarifies the periodic cell update procedure.
 It would not affect implementations behaving like indicated in the CR.

Consequences if not approved: ⌘ Unclear specifications, that may lead UTRAN implementations to assume that the UE in CELL_FACH is using a new value of the timer T305 (periodic cell update), while the periodic cell update is still disabled in the UE. This may lead UTRAN to erroneously deduce that the UE has been lost.

Clauses affected: ⌘ 8.1.3.6, 8.2.2.3, 8.3.3.3

Other specs	⌘	<input type="checkbox"/>	Other core specifications	⌘	25.331 v3.10.0, CR 1427r1 25.331 v5.0.0, CR 1429r1
affected:		<input type="checkbox"/>	Test specifications		
		<input type="checkbox"/>	O&M Specifications		
Other comments:	⌘	A detailed description of the issue is included in R2-020759 "Periodic cell update clarifications", Qualcomm			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

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

If the values are different, the UE shall:

- 1> ignore the rest of the message.

If the values are identical, the UE shall:

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

- 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:

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

- 4> select a suitable UTRA cell according to [4] on that frequency;

- 3> select PRACH according to subclause 8.5.17;

- 3> select Secondary CCPCH according to subclause 8.5.19;

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

- 1> perform the physical layer synchronisation procedure as specified in [29];

- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;

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

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

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

- 3> clear that entry.

- 2> if the USIM or SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then

- 3> set the START value stored in the USIM [50] if present, and as stored in the UE if the SIM is present for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.

- 2> if neither the USIM nor SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;

- 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].

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

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

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

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

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

1> if the UE has entered CELL_FACH state:

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

1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;

1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;

1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- remove any C-RNTI from MAC;
- clear the variable C_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4].
- if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - if the UE is in CELL_PCH or URA_PCH state:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - proceed as below.
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS ~~system information block type 1;~~
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

- ignore that IE and stop using DRX.
- if the contents of the variable C_RNTI is empty:
 - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - if the UE is in CELL_PCH or URA_PCH state:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
 - if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
 - re-establish RB2;
 - set the new uplink and downlink HFN of RB2 to $\text{MAX}(\text{uplink HFN of RB2} \mid \text{downlink HFN of RB2}) + 1$;
 - increment by one the downlink and uplink HFN values for RB2;
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - if the variable START_VALUE_TO_TRANSMIT is set:
 - include and set the IE "START" to the value of that variable.
 - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - if prior to this procedure there exist no transparent mode RLC radio bearers:
 - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
 - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4].
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS ~~system information block type 1;~~
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

- use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - set the variable INVALID_CONFIGURATION to TRUE.
- if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - the procedure ends.
- if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure is successfully completed:
 - the procedure ends.
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - when the URA update procedure is successfully completed:
 - the procedure ends.

[...]

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

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

- 1> act on received information elements as specified in 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;

NOTE: If a new value of timer T305 is included in the IE "UE Timers and constants in connected mode", and the old value of timer T305 is "infinity", the UE will not use the new value of the timer T305 until the next cell reselection.

- 2> for each updated constant value:
 - 3> start using the new value directly;
- 1> if the IE "CN domain specific DRX cycle length coefficient" is present:
 - 2> store the value of the IE "CN domain specific DRX cycle length coefficient" for that CN domain, replacing any previously stored value; and

- 2> use the value to determine the connected mode paging occasions according to [4].
- 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> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected";
- 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> include the IE "RB with PDCP information list" in the UTRAN MOBILITY INFORMATION CONFIRM message and set it to the value of the variable PDCP_SN_INFO.
- 1> if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;
- 1> if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> if the IE "Downlink counter synchronisation info" was included in the received UTRAN MOBILITY INFORMATION message:
 - 2> when RLC has confirmed the successful transmission of the response message:
 - 3> re-establish all AM and UM RLC entities with RB identities larger than 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the corresponding CN domain;
 - 3> re-establish the RLC entities with RB identities 1, 3 and 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - 3> set the remaining bits of the HFN values of all UM RLC entities to zero;
 - 3> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in [36].
- 1> if the variable PDCP_SN_INFO is empty; and
 - 2> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":

- 3> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
- 2> if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":
 - 3> when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
- 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:
 - 3> for each radio bearer in the variable PDCP_SN_INFO:
 - 4> if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - 5> configure the RLC entity for that radio bearer to "continue".
 - 3> clear the variable PDCP_SN_INFO.
- 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 2> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 2> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":
 - 2> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;
 - 2> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- 1> clear the variable SECURITY_MODIFICATION.

The procedure ends.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1429** ⌘ rev **r1** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ Periodic cell update clarifications		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	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)

Reason for change:	⌘ In section 8.3.3.3 <i>Reception of UTRAN MOBILITY INFORMATION message by the UE</i> , it is stated that: "The UE shall: ... for each updated timer value: start using the new value next time the timer is started". If the old value of timer T305 is "infinity", i.e. if periodic cell update is disabled, the UE will wait forever before using the new value of T305. This means that it is not possible to re-enable periodic cell update once it has been disabled, unless the UE performs a cell reselection.
Summary of change:	⌘ A note is added to indicate that if the old value of timer T305 is "infinity", the UE will not use a new value of the timer T305 until the next cell reselection. Note that T316 is the only other timer that can be set to the value "infinity", but T316 is only applicable to CELL_PCH and URA_PCH states, and UTRAN MOBILITY INFORMATION message can not be received in those states. This change may only affect UTRAN implementations. This change should not affect existing test procedures, since section 8.3.1.3 <i>Cell Update: periodical cell update in CELL_FACH</i> of TS 34.123-1 has already been corrected accordingly. Isolated Impact Change Analysis. This change clarifies the periodic cell update procedure. It would not affect implementations behaving like indicated in the CR.
Consequences if not approved:	⌘ Unclear specifications, that may lead UTRAN implementations to assume that the UE in CELL_FACH is using a new value of the timer T305 (periodic cell update), while the periodic cell update is still disabled in the UE. This may lead UTRAN to erroneously deduce that the UE has been lost.

Clauses affected: ⌘ 8.1.3.6, 8.2.2.3, 8.3.3.3

Other specs	⌘	<input type="checkbox"/>	Other core specifications	⌘	25.331 v3.10.0, CR 1427r1 25.331 v4.4.0, CR 1428r1
affected:		<input type="checkbox"/>	Test specifications		
		<input type="checkbox"/>	O&M Specifications		
Other comments:	⌘	A detailed description of the issue is included in R2-020759 "Periodic cell update clarifications", Qualcomm			

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.

[...]

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

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

If the values are different, the UE shall:

- 1> ignore the rest of the message.

If the values are identical, the UE shall:

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

- 2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:

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

- 4> select a suitable UTRA cell according to [4] on that frequency;

- 3> select PRACH according to subclause 8.5.17;

- 3> select Secondary CCPCH according to subclause 8.5.19;

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

- 1> perform the physical layer synchronisation procedure as specified in [29];

- 1> enter UTRA RRC connected mode, in a state according to subclause 8.6.3.3;

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

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

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

- 3> clear that entry.

- 2> if the USIM or SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50] if present, or as stored in the UE if the SIM is present; and then

- 3> set the START value stored in the USIM [50] if present, and as stored in the UE if the SIM is present for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.

- 2> if neither the USIM nor SIM is present:

- 3> set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;

- 3> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].

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

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

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

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

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

1> if the UE has entered CELL_FACH state:

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

1> store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;

1> initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;

1> consider the procedure to be successful;

And the procedure ends.

[...]

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> set the variable ORDERED_RECONFIGURATION to TRUE;

1> perform the physical layer synchronisation procedure as specified in [29];

1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may:

1> maintain a list of the set of cells to which the UE has Radio Links if the IE "Cell ID" is present.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration;
- 1> if "DPCH frame offset" is included for one or more RLs in the active set:
 - 2> use its value to determine the beginning of the DPCH frame in accordance with the following:
 - 3> if the received IE "DPCH frame offset" is across the value range border compared to the DPCH frame offset currently used by the UE:
 - 4> consider it to be a request to adjust the timing with 256 chips across the frame border (e.g. if the UE receives value 0 while the value currently used is 38144 consider this as a request to adjust the timing with +256 chips).
 - 3> if after taking into account value range borders, the received IE "DPCH frame offset" corresponds to a request to adjust the timing with a step exceeding 256 chips:
 - 4> set the variable INVALID_CONFIGURATION to FALSE.
 - 3> and the procedure ends.
- 2> adjust the radio link timing accordingly.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:

- 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
 - 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in ~~system information block type 1~~ the variable TIMERS AND CONSTANTS;
 - 1> select PRACH according to subclause 8.5.17;
 - 1> select Secondary CCPCH according to subclause 8.5.19;
 - 1> use the transport format set given in system information;
 - 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
 - 1> remove any H-RNTI stored;
 - 1> clear the variable H_RNTI;
 - 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;
 - 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers:
 - 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - 2> if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - 3> if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;

- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> remove any H-RNTI stored;
- 1> clear the variable H_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS AND CONSTANTS~~system information block type 1;~~
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:

3> the procedure ends.

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

[...]

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

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

1> act on received information elements as specified in 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;

NOTE: If a new value of timer T305 is included in the IE "UE Timers and constants in connected mode", and the old value of timer T305 is "infinity", the UE will not use the new value of the timer T305 until the next cell reselection.

2> for each updated constant value:

3> start using the new value directly;

1> if the IE "CN domain specific DRX cycle length coefficient" is present:

2> store the value of the IE "CN domain specific DRX cycle length coefficient" for that CN domain, replacing any previously stored value; and

2> use the value to determine the connected mode paging occasions according to [4].

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> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":

2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected";

1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":

2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

1> if the variable PDCP_SN_INFO is non-empty:

2> include the IE "RB with PDCP information list" in the UTRAN MOBILITY INFORMATION CONFIRM message and set it to the value of the variable PDCP_SN_INFO.

1> if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":

- 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;
- 1> if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:
- 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted UTRAN MOBILITY INFORMATION CONFIRM message.
- 1> if the IE "Downlink counter synchronisation info" was included in the received UTRAN MOBILITY INFORMATION message:
- 2> when RLC has confirmed the successful transmission of the response message:
 - 3> re-establish all AM and UM RLC entities with RB identities larger than 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the corresponding CN domain;
 - 3> re-establish the RLC entities with RB identities 1, 3 and 4 and set the first 20 bits of all their HFN values to the START value included in the response message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - 3> set the remaining bits of the HFN values of all UM RLC entities to zero;
 - 3> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in [36].
- 1> if the variable PDCP_SN_INFO is empty; and
- 2> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - 3> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
 - 2> if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":
 - 3> when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below.
- 1> if the variable PDCP_SN_INFO is non-empty:
- 2> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:
 - 3> for each radio bearer in the variable PDCP_SN_INFO:
 - 4> if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - 5> configure the RLC entity for that radio bearer to "continue".
 - 3> clear the variable PDCP_SN_INFO.
- 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
- 2> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 2> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and

2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

1> if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":

2> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;

2> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

1> clear the variable SECURITY_MODIFICATION.

The procedure ends.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1430** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ Multiple cells triggering event 1D		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ It is possible that the current best cell becomes suddenly significantly weaker, so resulting in multiple cells meeting the criteria for event 1D. It is not clear if the UE should report only the strongest cell or all the cells that become better than the previous best cell.
Summary of change:	⌘ It is clarified that, if multiple cells meet the criteria for event 1D, the UE should report only the strongest cell of all the cells that become better than the previous best cell. There should be no impact to tests currently defined in TS 34.123-1, since in the test on event 1D only one cell becomes better than the current best. See 8.4.1.23 <i>Measurement Control and Report: Intra-frequency measurement for events 1C and 1D</i> . Isolated Impact Change Analysis. This change clarifies the Event 1D measurement procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ Inconsistent UE behaviour.

Clauses affected:	⌘ 14.1.2.4		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v4.4.0, CR 1431 25.331 v5.0.0, CR 1432
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

14.1.2.4 Reporting event 1D: Change of best cell

When an intra-frequency measurement configuring event 1d is set up, the UE shall:

- 1> create a variable TRIGGERED_1D_EVENT related to that measurement, which shall initially contain the best cell in the active set when the measurement is initiated;
- 1> delete this variable when the measurement is released.

When event 1D is configured in the UE, the UE shall:

- 1> if "Measurement quantity" is "pathloss" and Equation 1 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT, or if "Measurement quantity" is "CPICH Ec/N0" or "CPICH RSCP", and Equation 2 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT:

NOTE: If the equations are simultaneously fulfilled for more than one primary CPICH, the UE should report only one event 1D, triggered by the best primary CPICH.

- 2> if all required reporting quantities are available for that cell, and if the equations have been fulfilled for a time period indicated by "Time to trigger":
 - 3> set "best cell" in the variable BEST_CELL_1D_EVENT to that primary CPICH that triggered the event;
 - 3> send a measurement report with IEs set as below:
 - 4> set in "intra-frequency measurement event results"; "Intrafrequency event identity" to "1d" and "cell measurement event results" to the CPICH info of the primary CPICH that triggered the report.
 - 4> set the IE "measured results" and the IE "additional measured results" according to subclause 8.4.2.

NOTE: Event 1D can be triggered by an active or by a non-active CPICH.

This event is only applicable to the CELL_DCH state. Upon transition to CELL_DCH the UE shall:

- 1> set "best cell" in the variable BEST_CELL_1D_EVENT to the best cell of the primary CPICHs included in the active set.

Equation 1 (Triggering condition for pathloss)

$$10 \log M_{NotBest} \leq 10 \log M_{Best} - H_{1d} / 2$$

Equation 2 (Triggering condition for all the other measurement quantities)

$$10 \log M_{NotBest} \geq 10 \log M_{Best} + H_{1d} / 2$$

The variables in the formula are defined as follows:

$M_{NotBest}$ is the measurement result of a cell not stored in "best cell" in the variable BEST_CELL_1D_EVENT.

M_{Best} is the measurement result of the cell stored in "best cell" in variable BEST_CELL_1D_EVENT.

H_{1d} is the hysteresis parameter for the event 1d.

If the measurement results are pathloss or CPICH-Ec/No then $M_{NotBest}$ and M_{Best} are expressed as ratios.

If the measurement result is CPICH-RSCP then $M_{NotBest}$ and M_{Best} are expressed in mW.

NOTE: The cell individual offsets for the two cells being compared shall not be taken into account when checking whether this event has been triggered or not.

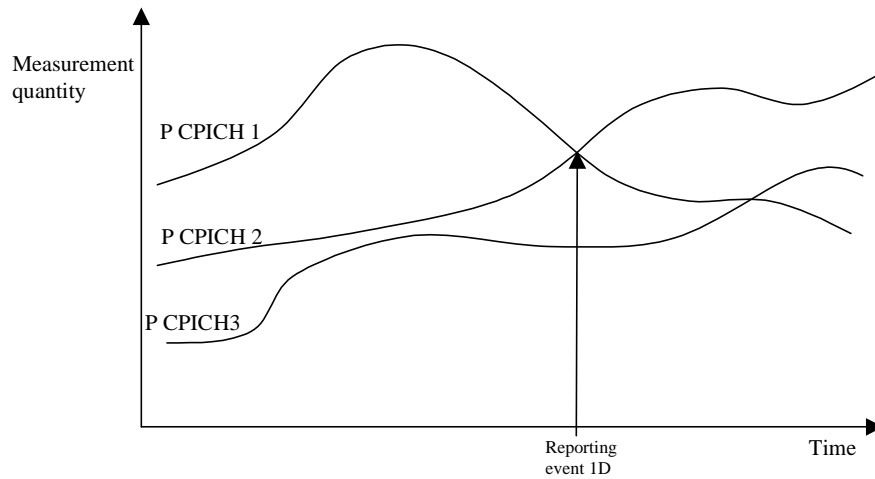


Figure 14.1.2.4-1 [Informative]: A primary CPICH becomes better than the previously best primary CPICH

In this figure, the parameters hysteresis and time to trigger, as well as the cell individual offsets for all cells are equal to 0.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1431** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘ Multiple cells triggering event 1D		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ It is possible that the current best cell becomes suddenly significantly weaker, so resulting in multiple cells meeting the criteria for event 1D. It is not clear if the UE should report only the strongest cell or all the cells that become better than the previous best cell.
Summary of change:	⌘ It is clarified that, if multiple cells meet the criteria for event 1D, the UE should report only the strongest cell of all the cells that become better than the previous best cell. There should be no impact to tests currently defined in TS 34.123-1, since in the test on event 1D only one cell becomes better than the current best. See 8.4.1.23 <i>Measurement Control and Report: Intra-frequency measurement for events 1C and 1D</i> . Isolated Impact Change Analysis. This change clarifies the Event 1D measurement procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ Inconsistent UE behaviour.

Clauses affected:	⌘ 14.1.2.4		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v3.10.0, CR 1430 25.331 v5.0.0, CR 1432
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

14.1.2.4 Reporting event 1D: Change of best cell

When an intra-frequency measurement configuring event 1d is set up, the UE shall:

- 1> create a variable TRIGGERED_1D_EVENT related to that measurement, which shall initially contain the best cell in the active set when the measurement is initiated;
- 1> delete this variable when the measurement is released.

When event 1D is configured in the UE, the UE shall:

- 1> if "Measurement quantity" is "pathloss" and Equation 1 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT, or if "Measurement quantity" is "CPICH Ec/NO" or "CPICH RSCP", and Equation 2 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT:

NOTE: If the equations are simultaneously fulfilled for more than one primary CPICH, the UE should report only one event 1D, triggered by the best primary CPICH.

- 2> if all required reporting quantities are available for that cell, and if the equations have been fulfilled for a time period indicated by "Time to trigger":
 - 3> set "best cell" in the variable BEST_CELL_1D_EVENT to that primary CPICH that triggered the event;
 - 3> send a measurement report with IEs set as below:
 - 4> set in "intra-frequency measurement event results"; "Intrafrequency event identity" to "1d" and "cell measurement event results" to the CPICH info of the primary CPICH that triggered the report.
 - 4> set the IE "measured results" and the IE "additional measured results" according to subclause 8.4.2.

NOTE: Event 1D can be triggered by an active or by a non-active CPICH.

This event is only applicable to the CELL_DCH state. Upon transition to CELL_DCH the UE shall:

- 1> set "best cell" in the variable BEST_CELL_1D_EVENT to the best cell of the primary CPICHs included in the active set.

Equation 1 (Triggering condition for pathloss)

$$10 \log M_{NotBest} \leq 10 \log M_{Best} - H_{1d} / 2$$

Equation 2 (Triggering condition for all the other measurement quantities)

$$10 \log M_{NotBest} \geq 10 \log M_{Best} + H_{1d} / 2$$

The variables in the formula are defined as follows:

$M_{NotBest}$ is the measurement result of a cell not stored in "best cell" in the variable BEST_CELL_1D_EVENT.

M_{Best} is the measurement result of the cell stored in "best cell" in variable BEST_CELL_1D_EVENT.

H_{1d} is the hysteresis parameter for the event 1d.

If the measurement results are pathloss or CPICH-Ec/No then $M_{NotBest}$ and M_{Best} are expressed as ratios.

If the measurement result is CPICH-RSCP then $M_{NotBest}$ and M_{Best} are expressed in mW.

NOTE: The cell individual offsets for the two cells being compared shall not be taken into account when checking whether this event has been triggered or not.

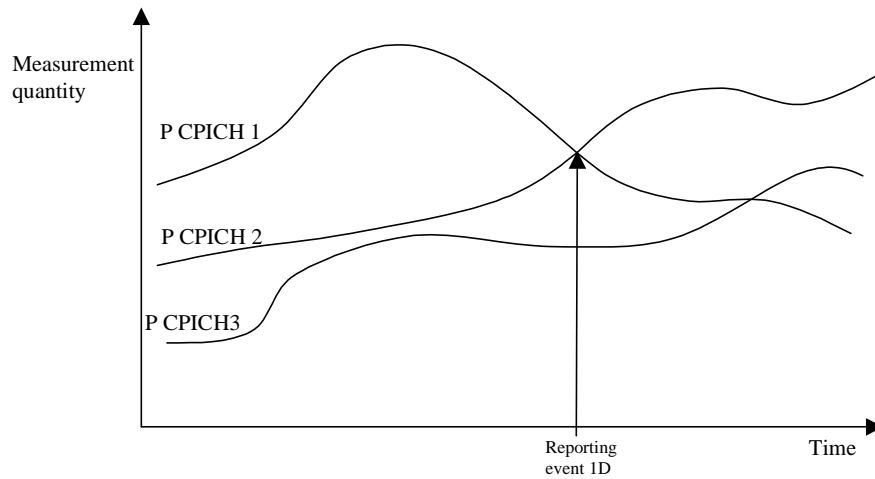


Figure 14.1.2.4-1 [Informative]: A primary CPICH becomes better than the previously best primary CPICH

In this figure, the parameters hysteresis and time to trigger, as well as the cell individual offsets for all cells are equal to 0.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1432** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ Multiple cells triggering event 1D		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	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)

Reason for change:	⌘ It is possible that the current best cell becomes suddenly significantly weaker, so resulting in multiple cells meeting the criteria for event 1D. It is not clear if the UE should report only the strongest cell or all the cells that become better than the previous best cell.
Summary of change:	⌘ It is clarified that, if multiple cells meet the criteria for event 1D, the UE should report only the strongest cell of all the cells that become better than the previous best cell. There should be no impact to tests currently defined in TS 34.123-1, since in the test on event 1D only one cell becomes better than the current best. See 8.4.1.23 <i>Measurement Control and Report: Intra-frequency measurement for events 1C and 1D</i> . Isolated Impact Change Analysis. This change clarifies the Event 1D measurement procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ Inconsistent UE behaviour.

Clauses affected:	⌘ 14.1.2.4		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v3.10.0, CR 1430 25.331 v4.4.0, CR 1431
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

14.1.2.4 Reporting event 1D: Change of best cell

When an intra-frequency measurement configuring event 1d is set up, the UE shall:

- 1> create a variable TRIGGERED_1D_EVENT related to that measurement, which shall initially contain the best cell in the active set when the measurement is initiated;
- 1> delete this variable when the measurement is released.

When event 1D is configured in the UE, the UE shall:

- 1> if "Measurement quantity" is "pathloss" and Equation 1 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT, or if "Measurement quantity" is "CPICH Ec/NO" or "CPICH RSCP", and Equation 2 below is fulfilled for a primary CPICH that is not stored in "Best cell" in variable BEST_CELL_1D_EVENT:

NOTE: If the equations are simultaneously fulfilled for more than one primary CPICH, the UE should report only one event 1D, triggered by the best primary CPICH.

- 2> if all required reporting quantities are available for that cell, and if the equations have been fulfilled for a time period indicated by "Time to trigger":
 - 3> set "best cell" in the variable BEST_CELL_1D_EVENT to that primary CPICH that triggered the event;
 - 3> send a measurement report with IEs set as below:
 - 4> set in "intra-frequency measurement event results"; "Intrafrequency event identity" to "1d" and "cell measurement event results" to the CPICH info of the primary CPICH that triggered the report.
 - 4> set the IE "measured results" and the IE "additional measured results" according to subclause 8.4.2.

NOTE: Event 1D can be triggered by an active or by a non-active CPICH.

This event is only applicable to the CELL_DCH state. Upon transition to CELL_DCH the UE shall:

- 1> set "best cell" in the variable BEST_CELL_1D_EVENT to the best cell of the primary CPICHs included in the active set.

Equation 1 (Triggering condition for pathloss)

$$10 \log M_{NotBest} \leq 10 \log M_{Best} - H_{1d} / 2$$

Equation 2 (Triggering condition for all the other measurement quantities)

$$10 \log M_{NotBest} \geq 10 \log M_{Best} + H_{1d} / 2$$

The variables in the formula are defined as follows:

$M_{NotBest}$ is the measurement result of a cell not stored in "best cell" in the variable BEST_CELL_1D_EVENT.

M_{Best} is the measurement result of the cell stored in "best cell" in variable BEST_CELL_1D_EVENT.

H_{1d} is the hysteresis parameter for the event 1d.

If the measurement results are pathloss or CPICH-Ec/No then $M_{NotBest}$ and M_{Best} are expressed as ratios.

If the measurement result is CPICH-RSCP then $M_{NotBest}$ and M_{Best} are expressed in mW.

NOTE: The cell individual offsets for the two cells being compared shall not be taken into account when checking whether this event has been triggered or not.

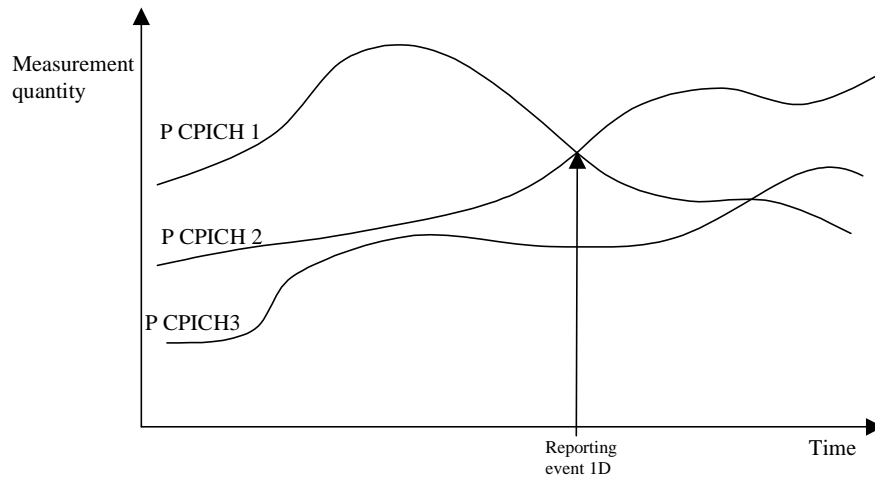


Figure 14.1.2.4-1 [Informative]: A primary CPICH becomes better than the previously best primary CPICH

In this figure, the parameters hysteresis and time to trigger, as well as the cell individual offsets for all cells are equal to 0.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1433** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ Disjoint Active Sets in the Active Set Update procedure		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ It is not sufficiently clear if the UE can have disjoint active sets across a frame boundary as the result of one or more (parallel) active set procedures.
Summary of change:	⌘ It is proposed to clearly note that a single ACTIVE SET UPDATE message can not completely replace an existing active set. Moreover, the same should apply to the case of parallel active set update procedures. If the active set update procedure creates disjoint active sets across a DPCH frame boundary, the UE behaviour is not specified. Isolated Impact Change Analysis. This change clarifies the active set update procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ If UTRAN tries to assign disjoint active sets to the UE, the UE will likely lose the physical layer synchronization, resulting in a dropped call.

Clauses affected:	⌘ 8.3.4.2, 8.3.4.5	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input checked="" type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.4.0, CR 1434 25.331 v5.0.0, CR 1435 TS 34.123-1
Other comments:	⌘ A CR to TS 34.123-1 will be proposed at next T1 meeting in order to align the definition of test 8.3.4.3, which is included in GCF Package 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/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.3.4 Active set update

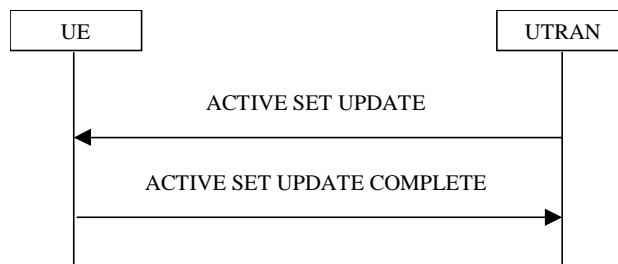


Figure 8.3.4-1: Active Set Update procedure, successful case

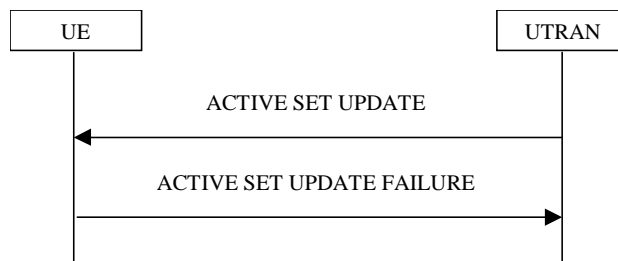


Figure 8.3.4-2: Active Set Update procedure, failure case

8.3.4.1 General

The purpose of the active set update procedure is to update the active set of the connection between the UE and UTRAN. This procedure shall be used in CELL_DCH state. The UE should keep on using the old RLs while configuring the new RLs. Also the UE should keep the transmitter turned on during the procedure. This procedure is only used in FDD mode.

8.3.4.2 Initiation

The procedure is initiated when UTRAN orders a UE in CELL_DCH state, to make the following modifications of the active set of the connection:

- a) Radio link addition;
- b) Radio link removal;
- c) Combined radio link addition and removal.

In case a) and c), UTRAN should:

- 1> prepare new additional radio link(s) in the UTRAN prior to the command to the UE.

In all cases, UTRAN should:

- 1> send an ACTIVE SET UPDATE message on downlink DCCH using AM or UM RLC;
- 1> create active sets that contain at least one common radio link across a DPCH frame boundary as the result of one or multiple (parallel) active set update procedures.

UTRAN should include the following information:

- 1> IE "Radio Link Addition Information": Downlink DPCH information and other optional parameters relevant for the radio links to be added along with the IE "Primary CPICH info" used for the reference ID to indicate which radio link to add. This IE is needed in cases a) and c) listed above;

- 1> IE "Radio Link Removal Information": IE "Primary CPICH info" used for the reference ID to indicate which radio link to remove. This IE is needed in cases b) and c) listed above.

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

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 as specified in [29];
- 1> if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> include the IE "RB with PDCP information list" in the ACTIVE SET UPDATE COMPLETE message; and
 - 2> set it to the value of the variable PDCP_SN_INFO.
- 1> if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - 2> if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - 3> configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set.
- 1> if the received ACTIVE SET UPDATE message included the IE "Downlink counter synchronisation info":
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the ACTIVE SET UPDATE COMPLETE message.
- 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 Physical Layer synchronization;
- 1> if the IE "Integrity protection mode info" was present in the ACTIVE SET UPDATE message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted ACTIVE SET UPDATE COMPLETE message.
- 1> if the IE "Downlink counter synchronisation info" was included in the received ACTIVE SET UPDATE message:
 - 2> when RLC has confirmed the successful transmission of the response message:

- 3> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in [36].
- 1> if the variable PDCP_SN_INFO is empty:
 - 2> if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - 3> when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - 4> perform the actions below.
 - 2> if the ACTIVE SET UPDATE message did not contain the IE "Ciphering mode info":
 - 3> when RLC has been requested to transmit the ACTIVE SET UPDATE COMPLETE message:
 - 4> perform the actions below.
 - 1> if the variable PDCP_SN_INFO is non-empty:
 - 2> when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - 3> for each radio bearer in the variable PDCP_SN_INFO:
 - 4> if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - 5> configure the RLC entity for that radio bearer to "continue".
 - 3> clear the variable PDCP_SN_INFO.
 - 1> if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - 2> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - 2> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - 2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
 - 1> if the ACTIVE SET UPDATE message contained the IE "Integrity protection mode info":
 - 2> allow the transmission of RRC messages on all signalling bearers with any RRC SN;
 - 2> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - 2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
 - 1> clear the variable SECURITY_MODIFICATION;
 - 1> the procedure ends on the UE side.

8.3.4.4 Unsupported configuration in the UE

If UTRAN instructs the UE to use a configuration that it does not support, 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 "configuration unsupported";
- 1> when the ACTIVE SET UPDATE FAILURE message has been submitted to lower layers for transmission:

2> the procedure ends on the UE side.

8.3.4.5 Invalid configuration

If any of the following conditions are valid:

- a radio link indicated by the IE "Downlink DPCH info for each RL" in the IE "Radio link addition information" has a different spreading factor than the spreading factor for the radio links in the active set that will be established at the time indicated by the IE "Activation time"; and/or
- a radio link in the IE "Radio link addition information" is also present in the IE "Radio Link Removal Information"; and/or
- the IE "Radio Link Removal Information" contains all the radio links which are part of or will be part of the active set at the time indicated by the IE "Activation time"; and/or
- the IE "TX Diversity Mode" is not set to "none" and it indicates a diversity mode that is different from the one currently used in all or part of the active set; and/or
- a radio link indicated by the IE "Radio Link Removal Information" does not exist in the active set; and/or
- after the removal of all radio links indicated by the IE "Radio Link Removal Information" and the addition of all radio links indicated by the IE "Radio Link Addition Information" the active set would contain more than the maximum allowed number of radio links; 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.

If the following condition is valid:

- the active set update procedure results in active sets that do not contain at least one common radio link before and after a DPCH frame boundary;

the UE behaviour is not specified.

8.3.4.5a Incompatible simultaneous reconfiguration

If the variable INCOMPATIBLE_SECURITY_RECONFIGURATION becomes set to TRUE due to the received ACTIVE SET UPDATE message, 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 "incompatible simultaneous reconfiguration";

- 1> when the ACTIVE SET UPDATE FAILURE message has been delivered to lower layers for transmission:
 - 2> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to FALSE;
 - 2> continue with any ongoing processes and procedures as if the ACTIVE SET UPDATE message has not been received;
 - 2> and the procedure ends.

If the variable ORDERED_RECONFIGURATION is set to TRUE; and

- 1> if the activation time for the procedure that has set variable ORDERED_RECONFIGURATION and the activation time for the Active Set Update procedure are within a time window of 5 frames, the UE may:
 - 2> transmit a ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC;
 - 2> 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
 - 2> clear that entry;
 - 2> set the IE "failure cause" to the cause value "incompatible simultaneous reconfiguration";
 - 2> when the ACTIVE SET UPDATE FAILURE message has been delivered to lower layers for transmission:
 - 3> continue with any ongoing processes and procedures as if the ACTIVE SET UPDATE message has not been received;
 - 3> and the procedure ends.

8.3.4.6 Reception of the ACTIVE SET UPDATE COMPLETE message by the UTRAN

When the UTRAN has received the ACTIVE SET UPDATE COMPLETE message,

- 1> the UTRAN may remove radio link(s) that are indicated to remove to the UE in case b) and c); and
- 1> the procedure ends on the UTRAN side.

8.3.4.7 Reception of the ACTIVE SET UPDATE FAILURE message by the UTRAN

When the UTRAN has received the ACTIVE SET UPDATE FAILURE message, the UTRAN may delete radio links that were included in the IE "Radio Link Addition Information" for addition. The procedure ends on the UTRAN side.

8.3.4.8 Invalid ACTIVE SET UPDATE message

If the ACTIVE SET UPDATE message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, 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 "Rejected 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 contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;
- 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 invalid ACTIVE SET UPDATE message has not been received;
- 2> and the procedure ends.

8.3.4.9 Reception of an ACTIVE SET UPDATE message in wrong state

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.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1434** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘ Disjoint Active Sets in the Active Set Update procedure		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	Release:	⌘ REL-4
	<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)

Reason for change:	⌘ It is not sufficiently clear if the UE can have disjoint active sets across a frame boundary as the result of one or more (parallel) active set procedures.
Summary of change:	⌘ It is proposed to clearly note that a single ACTIVE SET UPDATE message can not completely replace an existing active set. Moreover, the same should apply to the case of parallel active set update procedures. If the active set update procedure creates disjoint active sets across a DPCH frame boundary, the UE behaviour is not specified. Isolated Impact Change Analysis. This change clarifies the active set update procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ If UTRAN tries to assign disjoint active sets to the UE, the UE will likely lose the physical layer synchronization, resulting in a dropped call.

Clauses affected:	⌘ 8.3.4.2, 8.3.4.5	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input checked="" type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘ 25.331 v3.10.0, CR 1433 25.331 v5.0.0, CR 1435 TS 34.123-1
Other comments:	⌘ A CR to TS 34.123-1 will be proposed at next T1 meeting in order to align the definition of test 8.3.4.3, which is included in GCF Package 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/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.3.4.2 Initiation

The procedure is initiated when UTRAN orders a UE in CELL_DCH state, to make the following modifications of the active set of the connection:

- a) Radio link addition;
- b) Radio link removal;
- c) Combined radio link addition and removal.

In case a) and c), UTRAN should:

- 1> prepare new additional radio link(s) in the UTRAN prior to the command to the UE.

In all cases, UTRAN should:

- 1> send an ACTIVE SET UPDATE message on downlink DCCH using AM or UM RLC;

1> create active sets that contain at least one common radio link across a DPCH frame boundary as the result of one or multiple (parallel) active set update procedures.

UTRAN should include the following information:

- 1> IE "Radio Link Addition Information": Downlink DPCH information and other optional parameters relevant for the radio links to be added along with the IE "Primary CPICH info" used for the reference ID to indicate which radio link to add. This IE is needed in cases a) and c) listed above;
- 1> IE "Radio Link Removal Information": IE "Primary CPICH info" used for the reference ID to indicate which radio link to remove. This IE is needed in cases b) and c) listed above.

[...]

8.3.4.5 Invalid configuration

If any of the following conditions are valid:

- a radio link indicated by the IE "Downlink DPCH info for each RL" in the IE "Radio link addition information" has a different spreading factor than the spreading factor for the radio links in the active set that will be established at the time indicated by the IE "Activation time"; and/or
- a radio link in the IE "Radio link addition information" is also present in the IE "Radio Link Removal Information"; and/or
- the IE "Radio Link Removal Information" contains all the radio links which are part of or will be part of the active set at the time indicated by the IE "Activation time"; and/or
- the IE "TX Diversity Mode" is not set to "none" and it indicates a diversity mode that is different from the one currently used in all or part of the active set; and/or
- a radio link indicated by the IE "Radio Link Removal Information" does not exist in the active set; and/or
- after the removal of all radio links indicated by the IE "Radio Link Removal Information" and the addition of all radio links indicated by the IE "Radio Link Addition Information" the active set would contain more than the maximum allowed number of radio links; 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.

If the following condition is valid:

- the active set update procedure results in active sets that do not contain at least one common radio link before and after a DPCH frame boundary;

the UE behaviour is not specified.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1435** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ Disjoint Active Sets in the Active Set Update procedure		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	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)

Reason for change:	⌘ It is not sufficiently clear if the UE can have disjoint active sets across a frame boundary as the result of one or more (parallel) active set procedures.
Summary of change:	⌘ It is proposed to clearly note that a single ACTIVE SET UPDATE message can not completely replace an existing active set. Moreover, the same should apply to the case of parallel active set update procedures. If the active set update procedure creates disjoint active sets across a DPCH frame boundary, the UE behaviour is not specified. Isolated Impact Change Analysis. This change clarifies the active set update procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ If UTRAN tries to assign disjoint active sets to the UE, the UE will likely lose the physical layer synchronization, resulting in a dropped call.

Clauses affected:	⌘ 8.3.4.2, 8.3.4.5		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input checked="" type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v3.10.0, CR 1433 25.331 v4.4.0, CR 1434 TS 34.123-1
Other comments:	⌘ A CR to TS 34.123-1 will be proposed at next T1 meeting in order to align the definition of test 8.3.4.3, which is included in GCF Package 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/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.3.4.2 Initiation

The procedure is initiated when UTRAN orders a UE in CELL_DCH state, to make the following modifications of the active set of the connection:

- a) Radio link addition;
- b) Radio link removal;
- c) Combined radio link addition and removal.

In case a) and c), UTRAN should:

- 1> prepare new additional radio link(s) in the UTRAN prior to the command to the UE.

In all cases, UTRAN should:

- 1> send an ACTIVE SET UPDATE message on downlink DCCH using AM or UM RLC;

1> create active sets that contain at least one common radio link across a DPCH frame boundary as the result of one or multiple (parallel) active set update procedures.

UTRAN should include the following information:

- 1> IE "Radio Link Addition Information": Downlink DPCH information and other optional parameters relevant for the radio links to be added along with the IE "Primary CPICH info" used for the reference ID to indicate which radio link to add. This IE is needed in cases a) and c) listed above;
- 1> IE "Radio Link Removal Information": IE "Primary CPICH info" used for the reference ID to indicate which radio link to remove. This IE is needed in cases b) and c) listed above.

[...]

8.3.4.5 Invalid configuration

If any of the following conditions are valid:

- a radio link indicated by the IE "Downlink DPCH info for each RL" in the IE "Radio link addition information" has a different spreading factor than the spreading factor for the radio links in the active set that will be established at the time indicated by the IE "Activation time"; and/or
- a radio link in the IE "Radio link addition information" is also present in the IE "Radio Link Removal Information"; and/or
- the IE "Radio Link Removal Information" contains all the radio links which are part of or will be part of the active set at the time indicated by the IE "Activation time"; and/or
- the IE "TX Diversity Mode" is not set to "none" and it indicates a diversity mode that is different from the one currently used in all or part of the active set; and/or
- a radio link indicated by the IE "Radio Link Removal Information" does not exist in the active set; and/or
- after the removal of all radio links indicated by the IE "Radio Link Removal Information" and the addition of all radio links indicated by the IE "Radio Link Addition Information" the active set would contain more than the maximum allowed number of radio links; 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.

If the following condition is valid:

- the active set update procedure results in active sets that do not contain at least one common radio link before and after a DPCH frame boundary;

the UE behaviour is not specified.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1436** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ Deletion on compressed mode patterns when moving to CELL_FACH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘

1. It is not clearly specified when the compressed mode patterns associated to a particular inter-frequency or inter-RAT measurements have to be deleted.

2. ~~The inter-RAT and inter-frequency measurements are treated differently when entering CELL_FACH. In particular, the inter-RAT measurements are always deleted when entering CELL_FACH, while the inter-frequency measurements are deleted, except when the transition to CELL_FACH is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects the indicated cell. There is no apparent reason for this discrepancy. The inter-RAT procedure seems to be the sensible one (delete always), since there is no specific procedure that instructs the UE to delete the inter-frequency measurements when reselecting a new cell in CELL_FACH, and, anyhow, the UE has to receive a new "DPCH info" whenever going back to CELL_DCH.~~

The text in section 8.4.1.3 clearly states that the IE TGPS reconfiguration CFN can be used, not only to deactivate a patterns, but also to activate patterns, while the semantics description only mentions the deactivation of patterns.

Summary of change: ⌘

1. It is proposed to delete the compressed mode patterns at the same time when the corresponding inter-frequency or inter-RAT measurements have to be deleted.

2. ~~It is proposed to align the inter-frequency procedures to the inter-RAT procedures, so that the UE shall always delete the inter-frequency measurements when transitioning to the CELL_FACH state.~~

In order to avoid confusion between the procedural description and the semantics description it is proposed to remove the semantics description.

Isolated Impact Change Analysis.

This change clarifies the inter-frequency and inter-RAT procedures. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved:	⌘	The UE would store inter-frequency measurements (and corresponding compressed mode patterns) that could never be used again.	
Clauses affected:	⌘	8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 10.3.6.34	
Other specs affected:	⌘	Other core specifications	⌘ 25.331 v4.4.0, CR 1437 25.331 v5.0.0, CR 1438
		Test specifications	
		O&M Specifications	
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

[...]

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT_IDENTITY;
- 1> delete all compressed mode patterns associated to inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

[...]

10.3.6.34 DPCH Compressed Mode Status Info

This information element indicates status information of the compressed mode used by the UE in order to perform inter-frequency and inter-RAT measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS reconfiguration CFN	MP		Integer (0..255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxTGP S>		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be active or inactive.
>TGCFN	CV-Active		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Active" and not needed otherwise.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1437** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘ Deletion on compressed mode patterns when moving to CELL_FACH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘

1. It is not clearly specified when the compressed mode patterns associated to a particular inter-frequency or inter-RAT measurements have to be deleted.

2. ~~The inter-RAT and inter-frequency measurements are treated differently when entering CELL_FACH. In particular, the inter-RAT measurements are always deleted when entering CELL_FACH, while the inter frequency measurements are deleted, except when the transition to CELL_FACH is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects the indicated cell. There is no apparent reason for this discrepancy. The inter-RAT procedure seems to be the sensible one (delete always), since there is no specific procedure that instructs the UE to delete the inter frequency measurements when reselecting a new cell in CELL_FACH, and, anyhow, the UE has to receive a new "DPCH info" whenever going back to CELL_DCH.~~

The text in section 8.4.1.3 clearly states that the IE TGPS reconfiguration CFN can be used, not only to deactivate a patterns, but also to activate patterns, while the semantics description only mentions the deactivation of patterns.

Summary of change: ⌘

1. It is proposed to delete the compressed mode patterns at the same time when the corresponding inter-frequency or inter-RAT measurements have to be deleted.

2. ~~It is proposed to align the inter-frequency procedures to the inter-RAT procedures, so that the UE shall always delete the inter frequency measurements when transitioning to the CELL_FACH state.~~

In order to avoid confusion between the procedural description and the semantics description it is proposed to remove the semantics description.

Isolated Impact Change Analysis.

This change clarifies the inter-frequency and inter-RAT procedures. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved:	⌘	The UE would store inter-frequency measurements (and corresponding compressed mode patterns) that could never be used again.	
Clauses affected:	⌘	8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 10.3.6.34	
Other specs affected:	⌘	Other core specifications	⌘ 25.331 v3.10.0, CR 1436 25.331 v5.0.0, CR 1438
		Test specifications	
		O&M Specifications	
Other comments:	⌘		

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.

[...]

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

[...]

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT_IDENTITY;
- 1> delete all compressed mode patterns associated to inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

[...]

10.3.6.34 DPCH Compressed Mode Status Info

This information element indicates status information of the compressed mode used by the UE in order to perform inter-frequency and inter-RAT measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS reconfiguration CFN	MP		Integer (0..255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxTGP S>		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be active or inactive.
>TGCFN	CV-Active		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Active" and not needed otherwise.

[...]

CHANGE REQUEST

⌘ **25.331 CR 1438** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ Deletion on compressed mode patterns when moving to CELL_FACH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 13 May 2002
Category:	⌘ A 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.	Release:	⌘ REL-5 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘
1. It is not clearly specified when the compressed mode patterns associated to a particular inter-frequency or inter-RAT measurements have to be deleted.
2. ~~The inter-RAT and inter-frequency measurements are treated differently when entering CELL_FACH. In particular, the inter-RAT measurements are always deleted when entering CELL_FACH, while the inter frequency measurements are deleted, except when the transition to CELL_FACH is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects the indicated cell. There is no apparent reason for this discrepancy. The inter-RAT procedure seems to be the sensible one (delete always), since there is no specific procedure that instructs the UE to delete the inter-frequency measurements when reselecting a new cell in CELL_FACH, and, anyhow, the UE has to receive a new "DPCH info" whenever going back to CELL_DCH.~~
The text in section 8.4.1.3 clearly states that the IE TGPS reconfiguration CFN can be used, not only to deactivate a patterns, but also to activate patterns, while the semantics description only mentions the deactivation of patterns.

Summary of change: ⌘
1. It is proposed to delete the compressed mode patterns at the same time when the corresponding inter-frequency or inter-RAT measurements have to be deleted.
2. ~~It is proposed to align the inter-frequency procedures to the inter-RAT procedures, so that the UE shall always delete the inter-frequency measurements when transitioning to the CELL_FACH state.~~
In order to avoid confusion between the procedural description and the semantics description it is proposed to remove the semantics description.

Isolated Impact Change Analysis.

This change clarifies the inter-frequency and inter-RAT procedures. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved:	⌘	The UE would store inter-frequency measurements (and corresponding compressed mode patterns) that could never be used again.	
Clauses affected:	⌘	8.4.1.6.2, 8.4.1.6.3, 8.4.1.6a, 10.3.6.34	
Other specs affected:	⌘	Other core specifications	⌘ 25.331 v3.10.0, CR 1436 25.331 v4.4.0, CR 1437
		Test specifications	
		O&M Specifications	
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

[...]

8.4.1.6.2 Inter-frequency measurement

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or
- 1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or
- 1> if the transition is not due to a reconfiguration message:
 - 2> delete the measurements of type inter-frequency associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

8.4.1.6.3 Inter-RAT measurement

Upon transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH state, the UE shall:

- 1> stop the inter-RAT type measurement reporting assigned in a MEASUREMENT CONTROL message;
- 1> delete the measurements of type inter-RAT associated with the variable MEASUREMENT_IDENTITY and delete the corresponding compressed mode pattern;
- 1> begin monitoring cells listed in the IE "inter-RAT cell info list" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
- 1> in CELL_FACH state:
 - 2> perform measurements on other systems according to the IE "FACH measurement occasion info".

[...]

8.4.1.6a Actions in CELL_FACH/CELL_PCH/URA/PCH state upon cell re-selection

Upon cell reselection while in CELL_FACH/CELL_PCH/URA/PCH state and the cell reselection has occurred after the measurement control information was stored, the UE shall:

- 1> delete all measurements of type intra-frequency, inter-frequency, and inter-RAT associated with the variable MEASUREMENT_IDENTITY;
- 1> delete all compressed mode patterns associated to inter-frequency and inter-RAT measurements;
- 1> delete the traffic volume measurements that have not been set up or modified through a MEASUREMENT CONTROL message.

[...]

10.3.6.34 DPCH Compressed Mode Status Info

This information element indicates status information of the compressed mode used by the UE in order to perform inter-frequency and inter-RAT measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS reconfiguration CFN	MP		Integer (0..255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxTGP S>		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be active or inactive.
>TGCFN	CV-Active		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Active" and not needed otherwise.

[...]

3GPP TSG-RAN WG2 Meeting #29
 Gyeongju, Korea, May 13 – May 17, 2002

R2-021344

CR-Form-v5

CHANGE REQUEST

⌘ **25.331 CR 1439** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ TDD C-RNTI in Cell DCH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 5/7/2002
Category:	⌘ F	Release:	⌘ R99
	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)		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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		

Reason for change:	⌘ In TDD mode deletion of C-RNTI in Cell DCH is only necessary if P-CCPCH is updated indicating change of cell. Deletion of C-RNTI results in unnecessary initiation of Cell Update procedure and PRACH and S-CCPCH overhead.
Summary of change:	⌘ In TDD Cell DCH the C-RNTI is only removed when signalled P-CCPCH indicates cell change without specified New C-RNTI.
Consequences if not approved:	⌘ Unnecessary initiation of Cell Update procedures and overhead on common channels. <u>Isolated impact analysis:</u> UEs without this feature initiate Cell Update unnecessarily when there is no change in cell and reassign the same C-RNTI. Correction to a function where the specification was found erroneous and contained contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. <u>Impacted Functionality:</u> Initiation of Cell Update procedure upon return to Cell FACH is reduced to when UE selects a cell other than the cell indicated by P-CCPCH info.

Clauses affected:	⌘ 8.2.2.3		
Other specs affected:	⌘ - Other core specifications ⌘ - Test specifications ⌘ - O&M Specifications	⌘	25.331 v4.4.0, CR 1440 25.331 v5.0.0, CR 1441

Other comments: ⌘

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> perform the physical layer synchronisation procedure as specified in [29];
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> [in FDD, or](#)
- 1> [in the case for TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)
 - 2> remove any C-RNTI from MAC;
 - 2> clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

- 1> [In TDD if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)
 - 2> [remove any C-RNTI from MAC;](#)
 - 2> [clear the variable C_RNTI.](#)

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCH according to subclause 8.5.19;

- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;
 - 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;

- 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers:
 - 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - 2> if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - 3> if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.

- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

3GPP TSG-RAN WG2 Meeting #29
 Gyeongju, Korea, May 13 – May 17, 2002

R2-021345

CR-Form-v5

CHANGE REQUEST

⌘ **25.331 CR 1440** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘ TDD C-RNTI in Cell DCH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 5/7/2002
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)		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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		

Reason for change:	⌘ In TDD mode deletion of C-RNTI in Cell DCH is only necessary if P-CCPCH is updated indicating change of cell. Deletion of C-RNTI results in unnecessary initiation of Cell Update procedure and PRACH and S-CCPCH overhead.
Summary of change:	⌘ In TDD Cell DCH the C-RNTI is only removed when signalled P-CCPCH indicates cell change without specified New C-RNTI.
Consequences if not approved:	⌘ Unnecessary initiation of Cell Update procedures and overhead on common channels. <u>Isolated impact analysis:</u> UEs without this feature initiate Cell Update unnecessarily when there is no change in cell and reassign the same C-RNTI. Correction to a function where the specification was found erroneous and contained contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. <u>Impacted Functionality:</u> Initiation of Cell Update procedure upon return to Cell FACH is reduced to when UE selects a cell other then the cell indicated by P-CCPCH info.

Clauses affected:	⌘ 8.2.2.3		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v3.10.0, CR 1439 25.331 v5.0.0, CR 1441

Other comments: ☞ 

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> perform the physical layer synchronisation procedure as specified in [29];
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may:

- 1> maintain a list of the set of cells to which the UE has Radio Links if the IE "Cell ID" is present.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

- 1> [in FDD, or](#)

[1> in the case for TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)

- 2> remove any C-RNTI from MAC;

[1> 2>](#) clear the variable C_RNTI.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

- 1> remove any DSCH-RNTI from MAC;
- 1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

- 1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- 1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

[1> In TDD if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)

- 2> [remove any C-RNTI from MAC;](#)

- 2> [clear the variable C_RNTI.](#)

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";

- 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;
 - 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:
 - 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;

- 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
 - 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
 - 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - 2> if prior to this procedure there exist no transparent mode RLC radio bearers:
 - 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - 2> if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - 3> if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):

- 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.
- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:

- 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
- 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

3GPP TSG-RAN WG2 Meeting #29
 Gyeongju, Korea, May 13 – May 17, 2002

R2-021346

CR-Form-v5

CHANGE REQUEST

⌘ **25.331 CR 1441** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ TDD C-RNTI in Cell DCH		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 5/7/2002
Category:	⌘ A	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)		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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		

Reason for change:	⌘ In TDD mode deletion of C-RNTI in Cell DCH is only necessary if P-CCPCH is updated indicating change of cell. Deletion of C-RNTI results in unnecessary initiation of Cell Update procedure and PRACH and S-CCPCH overhead.
Summary of change:	⌘ In TDD Cell DCH the C-RNTI is only removed when signalled P-CCPCH indicates cell change without specified New C-RNTI.
Consequences if not approved:	⌘ Unnecessary initiation of Cell Update procedures and overhead on common channels. <u>Isolated impact analysis:</u> UEs without this feature initiate Cell Update unnecessarily when there is no change in cell and reassign the same C-RNTI. Correction to a function where the specification was found erroneous and contained contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. <u>Impacted Functionality:</u> Initiation of Cell Update procedure upon return to Cell FACH is reduced to when UE selects a cell other then the cell indicated by P-CCPCH info.

Clauses affected:	⌘ 8.2.2.3		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.331 v3.10.0, CR 1439 25.331 v4.4.0, CR 1440

Other comments: ¶

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message;

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

If the UE receives:

- a RADIO BEARER SETUP message; or
- a RADIO BEARER RECONFIGURATION message; or
- a RADIO BEARER RELEASE message; or
- a TRANSPORT CHANNEL RECONFIGURATION message; or
- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

- 1> set the variable ORDERED_RECONFIGURATION to TRUE;
- 1> perform the physical layer synchronisation procedure as specified in [29];
- 1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may:

- 1> maintain a list of the set of cells to which the UE has Radio Links if the IE "Cell ID" is present.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
 - 2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
 - 2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- 1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

- 1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> [in FDD, or](#)

[1> in the case for TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)

[2> remove any C-RNTI from MAC;](#)

+ [2> clear the variable C_RNTI.](#)

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

1> remove any DSCH-RNTI from MAC;

1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration;

[1> In TDD if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:](#)

[2> remove any C-RNTI from MAC;](#)

[2> clear the variable C_RNTI.](#)

1> if "DPCH frame offset" is included for one or more RLs in the active set:

2> use its value to determine the beginning of the DPCH frame in accordance with the following:

3> if the received IE "DPCH frame offset" is across the value range border compared to the DPCH frame offset currently used by the UE:

4> consider it to be a request to adjust the timing with 256 chips across the frame border (e.g. if the UE receives value 0 while the value currently used is 38144 consider this as a request to adjust the timing with +256 chips).

3> if after taking into account value range borders, the received IE "DPCH frame offset" corresponds to a request to adjust the timing with a step exceeding 256 chips:

4> set the variable INVALID_CONFIGURATION to FALSE.

3> and the procedure ends.

2> adjust the radio link timing accordingly.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4] on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4].

1> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

- 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
- 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select PRACH according to subclause 8.5.17;
- 1> select Secondary CCPCCH according to subclause 8.5.19;
- 1> use the transport format set given in system information;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> ignore that IE and stop using DRX.
- 1> remove any H-RNTI stored;
- 1> clear the variable H_RNTI;
- 1> if the contents of the variable C_RNTI is empty:
 - 2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> if the UE is in CELL_PCH or URA_PCH state:
 - 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
 - 4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency;
 - 2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCCH info" (for TDD):
 - 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 3> when the cell update procedure completed successfully:
 - 4> proceed as below.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

- 1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or
- 1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:

- 2> re-establish RB2;
 - 2> set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2, downlink HFN of RB2);
 - 2> increment by one the downlink and uplink HFN values for RB2;
 - 2> calculate the START value according to subclause 8.5.9;
 - 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
- 2> if the variable START_VALUE_TO_TRANSMIT is set:
 - 3> include and set the IE "START" to the value of that variable.
 - 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
 - 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:
 - 3> calculate the START value according to subclause 8.5.9;
 - 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":
- 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".
- 1> if the received reconfiguration message contained the IE "Ciphering mode info":
- 2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- 1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
- 2> if prior to this procedure there exist no transparent mode RLC radio bearers:
 - 3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - 3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
 - 2> if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - 3> if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - 4> include the IE "COUNT-C activation time" and specify a CFN value for this IE.
- 1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;

- 1> if the variable PDCP_SN_INFO is not empty:
 - 2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- 1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
 - 2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- 1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- 1> if the IE "Frequency info" is included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4] on that frequency.
- 1> if the IE "Frequency info" is not included in the received reconfiguration message:
 - 2> select a suitable UTRA cell according to [4].
- 1> prohibit periodical status transmission in RLC;
- 1> remove any C-RNTI from MAC;
- 1> clear the variable C_RNTI;
- 1> remove any H-RNTI stored;
- 1> clear the variable H_RNTI;
- 1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- 1> select Secondary CCPCH according to subclause 8.5.19;
- 1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- 1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure completed successfully:
 - 3> the procedure ends.

- 1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
 - 2> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - 2> when the cell update procedure is successfully completed:
 - 3> the procedure ends.
- 1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - 2> when the URA update procedure is successfully completed:
 - 3> the procedure ends.

3GPP TSG-RAN WG2 Meeting #29
 Gyeongju, Korea, May 13 – May 17, 2002

R2-021347

CR-Form-v5

CHANGE REQUEST

⌘ **25.331 CR 1442** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

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

Title:	⌘ CCTrCH Release in TDD		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 5/7/2002
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ In TDD several CCTrCH may be supported. Signaling is provided for independent CCTrCH physical channel establishment, but not for the release.
Summary of change:	⌘ In Uplink DPCH Info and Downlink DPCH Info for each RL physical channels to establish are currently indicated by the UL & DL CCTrCH lists. This change adds CCTrCH physical channels to remove list to these IE's. Both the establishment and release CCTrCH lists are optional within these IE's.
Consequences if not approved:	⌘ When more then one CCTrCH exists in TDD release of physical channels associated with a particular CCTrCH is not possible. <u>Isolated impact analysis:</u> Isolated Impact exists for TDD. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. <u>Impacted functionality:</u> Establishment and release of dedicated physical channels when more then one CCTrCH exists. Correction to a function where the specification was found erroneous and contained contradictions.

Clauses affected:	⌘ 10.3.6.21, 10.3.6.88, 11.3		
Other specs affected:	⌘ -	Other core specifications	⌘ 25.331 v4.4.0, CR 1443r1 25.331 v5.0.0, CR 1444r1
	⌘ -	Test specifications	

- O&M Specifications

Other comments: ⌘ -

10.3.6.21 Downlink DPCH info for each RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	MP			
>FDD				
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.62	
>>DPCH frame offset	MP		Integer(0..38144 by step of 256)	Offset (in number of chips) between the beginning of the P-CCPCH frame and the beginning of the DPCH frame This is called $\tau_{DPCH,n}$ in [26]
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.73	
>>DL channelisation code	MP	1 to <maxDPC H-DLchan>		For the purpose of physical channel mapping [27] the DPCHs are numbered, starting from DPCH number 1, according to the order that they are contained in this IE.
>>>Secondary scrambling code	MD		Secondary scrambling code 10.3.6.74	Default is the same scrambling code as for the Primary CPICH
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-AndCodenumbr with "code number" in ASN.1
>>>Code number	MP		Integer(0..Spreading factor - 1)	
>>>Scrambling code change	CH-SF/2		Enumerated (code change, no code change)	Indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.
>>TPC combination index	MP		TPC combination index 10.3.6.85	
>>SSDT Cell Identity	OP		SSDT Cell Identity 10.3.6.76	
>>Closed loop timing adjustment mode	CH-TxDiversity Mode		Integer(1, 2)	It is present if Tx Diversity is used in the radio link.
>TDD				
>>DL CCTrCh List	MP OP	1..<maxCC TrCH>		DL physical channels to establish or reconfigure list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>TFCS ID	MD		Integer(1..8)	Identity of this CCTrCh. Default value is 1
>>>Time info	MP		Time Info 10.3.6.83	
>>>Common timeslot info	MD		Common Timeslot Info 10.3.6.10	Default is the current Common timeslot info
>>>Downlink DPCH timeslots and codes	MD		Downlink Timeslots and Codes 10.3.6.32	Default is to use the old timeslots and codes.
>>>UL CCTrCH TPC List	MD	0..<maxCC TrCH>		UL CCTrCH identities for TPC commands associated with this DL CCTrCH. Default is previous list or all defined UL CCTrCHs
>>>>UL TPC TFCS Identity	MP		Transport Format Combination Set Identity 10.3.5.21	
>>DL CCTrCH List to Remove	OP	1..<maxCC TrCH>		DL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

Condition	Explanation
<i>SF/2</i>	The information element is mandatory present if the UE has an active compressed mode pattern sequence, which is using compressed mode method "SF/2". Otherwise the IE is not needed.
<i>TxDiversity Mode</i>	This IE is mandatory present if any TX Diversity Mode is used on the radio link, i.e. if STTD, "closed loop mode 1" or "closed loop mode 2" is used on the radio link. Otherwise the IE is not needed.

10.3.6.88 Uplink DPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91	
CHOICE mode	MP			
>FDD				
>>Scrambling code type	MP		Enumerated(short, long)	
>>Scrambling code number	MP		Integer(0..16777215)	
>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part
>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"
>>Number of FBI bits	OP		Integer (1, 2)	In bits.
>>Puncturing Limit	MP		Real(0.40 ..1 by step of 0.04)	
>TDD				
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96	
>>UL CCTrCH List	MP OP	1 to <maxCCTrCH>		UL physical channels to establish or reconfigure list
>>>TFCS ID	MD		Integer(1..8)	Default value is 1.
>>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB
>>>Time info	MP		Time info 10.3.6.83	
>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info
>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.
>>UL CCTrCH List to Remove	OP	1..<maxCCTrCH>		UL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

11.3 Information element definitions

-- *****
 --

```

--      PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- *****

DL-CCTrCh ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    dl-CCTrCh-TimeslotsCodes DownlinkTimeslotsCodes        OPTIONAL,
    ul-CCTrChTPCList       UL-CCTrChTPCList                  OPTIONAL
}

DL-CCTrChList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    DL-CCTrCh

DL-CCTrChListToRemove ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    TFCS-IdentityPlain

DL-DPCH-InfoPerRL ::=
    CHOICE {
        fdd
            PCPICH-UsageForChannelEst    PCPICH-UsageForChannelEst,
            dpch-FrameOffset             DPCH-FrameOffset,
            secondaryCPICH-Info          SecondaryCPICH-Info                OPTIONAL,
            dl-ChannelisationCodeList    DL-ChannelisationCodeList,
            tpc-CombinationIndex         TPC-CombinationIndex,
            ssdt-CellIdentity            SSDT-CellIdentity                OPTIONAL,
            closedLoopTimingAdjMode      ClosedLoopTimingAdjMode        OPTIONAL
        },
        tdd
            dl-CCTrChListToEstablish     DL-CCTrChList                OPTIONAL,
            dl-CCTrChListToRemove       DL-CCTrChListToRemove        OPTIONAL
    }

UL-CCTrCH ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    ul-TargetSIR           UL-TargetSIR,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes        OPTIONAL
}

UL-CCTrCHList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    UL-CCTrCH

UL-CCTrCHListToRemove ::=
    SEQUENCE {SIZE (1..maxCCTrCH)} OF
    TFCS-IdentityPlain

UL-DPCH-Info ::=
    ul-DPCH-PowerControlInfo    UL-DPCH-PowerControlInfo        OPTIONAL,
    modeSpecificInfo           CHOICE {
        fdd
            scramblingCodeType          ScramblingCodeType,
            scramblingCode              UL-ScramblingCode,
            numberOfDPDCH               NumberOfDPDCH                    DEFAULT 1,
            spreadingFactor             SpreadingFactor,
            tfci-Existence              BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits            NumberOfFBI-Bits                OPTIONAL,
            puncturingLimit             PuncturingLimit
        },
        tdd
            ul-TimingAdvance            UL-TimingAdvanceControl        OPTIONAL,
            ul-CCTrCHList               UL-CCTrCHList                OPTIONAL,
            ul-CCTrCHListToRemove       UL-CCTrCHListToRemove        OPTIONAL
    }
}

```

3GPP TSG-RAN WG2 Meeting #29
Gyeongju, Korea, May 13 – May 17, 2002

R2-021472

CR-Form-v5

CHANGE REQUEST

⌘ **25.331 CR 1443** ⌘ rev **r1** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘ CCTrCH Release in TDD		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 5/7/2002
Category:	⌘ A	Release:	⌘ REL-4
	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)

Reason for change:	⌘ In TDD several CCTrCH may be supported. Signaling is provided for independent CCTrCH physical channel establishment, but not for the release.
Summary of change:	⌘ In Uplink DPCH Info and Downlink DPCH Info for each RL physical channels to establish are currently indicated by the UL & DL CCTrCH lists. This change adds CCTrCH physical channels to remove list to these IE's. Both the establishment and release CCTrCH lists are optional within these IE's.
	DL-DPCH-InfoPerRL: Correction modified to correctly reflect the change that is being made.
	DL-DPCH-InfoPerRL-r4: Correction made to R99 version of this IE (DL-DPCH-InfoPerRL) copied into the Rel4 version.
	UL-DPCH-Info-r4: Correction made to R99 version of this IE (UL-DPCH-Info) copied into the Rel4 version.
Consequences if not approved:	⌘ When more then one CCTrCH exists in TDD release of physical channels

associated with a particular CCTrCH is not possible.

Isolated impact analysis: Isolated Impact exists for TDD.

Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Impacted functionality: Establishment and release of dedicated physical channels when more than one CCTrCH exists.

Correction to a function where the specification was found erroneous and contained contradictions.

Clauses affected:	⌘	10.3.6.21, 10.3.6.88, 11.3												
Other specs affected:	⌘	<table border="1"> <tr> <td>-</td> <td>Other core specifications</td> <td>⌘</td> <td>25.331 v3.10.0, CR 1442</td> </tr> <tr> <td>-</td> <td>Test specifications</td> <td></td> <td>25.331 v5.0.0, CR 1444r1</td> </tr> <tr> <td>-</td> <td>O&M Specifications</td> <td></td> <td></td> </tr> </table>	-	Other core specifications	⌘	25.331 v3.10.0, CR 1442	-	Test specifications		25.331 v5.0.0, CR 1444r1	-	O&M Specifications		
-	Other core specifications	⌘	25.331 v3.10.0, CR 1442											
-	Test specifications		25.331 v5.0.0, CR 1444r1											
-	O&M Specifications													
Other comments:	⌘	-												

10.3.6.21 Downlink DPCH info for each RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	MP			
>FDD				
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.62	
>>DPCH frame offset	MP		Integer(0..38144 by step of 256)	Offset (in number of chips) between the beginning of the P-CCPCH frame and the beginning of the DPCH frame This is called $\tau_{DPCH,n}$ in [26]
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.73	
>>DL channelisation code	MP	1 to <maxDPC H-DLchan>		For the purpose of physical channel mapping [27] the DPCHs are numbered, starting from DPCH number 1, according to the order that they are contained in this IE.
>>>Secondary scrambling code	MD		Secondary scrambling code 10.3.6.74	Default is the same scrambling code as for the Primary CPICH
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-AndCodenummer with "code number" in ASN.1
>>>Code number	MP		Integer(0..Spreading factor - 1)	
>>>Scrambling code change	CH-SF/2		Enumerated (code change, no code change)	Indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.
>>TPC combination index	MP		TPC combination index 10.3.6.85	
>>SSDT Cell Identity	OP		SSDT Cell Identity 10.3.6.76	
>>Closed loop timing adjustment mode	CH-TxDiversity Mode		Integer(1, 2)	It is present if Tx Diversity is used in the radio link.
>TDD				
>>DL CCTrCh List	OP MP	1..<maxCC TrCH>		DL physical channels to establish or reconfigure list
>>>TFCS ID	MD		Integer(1..8)	Identity of this CCTrCh. Default value is 1
>>>Time info	MP		Time Info 10.3.6.83	
>>>Common timeslot info	MD		Common Timeslot Info	Default is the current Common timeslot info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.6.10	
>>>Downlink DPCH timeslots and codes	MD		Downlink Timeslots and Codes 10.3.6.32	Default is to use the old timeslots and codes.
>>>UL CCTrCH TPC List	MD	0..<maxCC TrCH>		UL CCTrCH identities for TPC commands associated with this DL CCTrCH. Default is previous list or all defined UL CCTrCHs
>>>>UL TPC TFCS Identity	MP		Transport Format Combination Set Identity 10.3.5.21	
>>DL CCTrCH List to Remove	OP	1..<maxCC TrCH>		DL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

Condition	Explanation
<i>SF/2</i>	The information element is mandatory present if the UE has an active compressed mode pattern sequence, which is using compressed mode method "SF/2". Otherwise the IE is not needed.
<i>TxDiversity Mode</i>	This IE is mandatory present if any TX Diversity Mode is used on the radio link, i.e. if STTD, "closed loop mode 1" or "closed loop mode 2" is used on the radio link. Otherwise the IE is not needed.

10.3.6.88 Uplink DPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91	
CHOICE mode	MP			
>FDD				
>>Scrambling code type	MP		Enumerated(short, long)	
>>Scrambling code number	MP		Integer(0..16777215)	
>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part
>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"
>>Number of FBI bits	OP		Integer (1, 2)	In bits.
>>Puncturing Limit	MP		Real(0.40 ..1 by step of 0.04)	
>TDD				
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96	
>>UL CCTrCH List	OP MP	1 to <maxCCTrCH>		UL physical channels to establish or reconfigure list
>>>TFCS ID	MD		Integer(1..8)	Default value is 1.
>>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB
>>>Time info	MP		Time info 10.3.6.83	
>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info
>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.
>>UL CCTrCH List to Remove	OP	1..<maxCC TrCH>		UL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

11.3 Information element definitions

```

-- *****
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- *****

DL-CCTrCh ::=
    SEQUENCE {
        tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
        timeInfo                TimeInfo,
        commonTimeslotInfo      CommonTimeslotInfo                OPTIONAL,
        dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes          OPTIONAL,
        ul-CCTrChTPCList        UL-CCTrChTPCList                OPTIONAL
    }

DL-CCTrCh-r4 ::=
    SEQUENCE {
        tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
        timeInfo                TimeInfo,
        commonTimeslotInfo      CommonTimeslotInfo                OPTIONAL,
        tddOption                CHOICE {
            tdd384                SEQUENCE {
                dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes OPTIONAL
            },
            tdd128                SEQUENCE {
                dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes-LCR-r4 OPTIONAL
            }
        },
        ul-CCTrChTPCList        UL-CCTrChTPCList                OPTIONAL
    }

DL-CCTrChList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
        DL-CCTrCh

DL-CCTrChListToRemove ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
        TFCS-IdentityPlain

.....

DL-DPCH-InfoPerRL ::=
    CHOICE {
        fdd                SEQUENCE {
            pCPICH-UsageForChannelEst PCPICH-UsageForChannelEst,
            dpch-FrameOffset          DPCH-FrameOffset,
            secondaryCPICH-Info        SecondaryCPICH-Info                OPTIONAL,
            dl-ChannelisationCodeList DL-ChannelisationCodeList,
            tpc-CombinationIndex        TPC-CombinationIndex,
            ssdt-CellIdentity            SSDT-CellIdentity                OPTIONAL,
            closedLoopTimingAdjMode     ClosedLoopTimingAdjMode          OPTIONAL
        },
        tdd                SEQUENCE {
            dl-CCTrChListToEstablish DL-CCTrChList                OPTIONAL,
            dl-CCTrChListToRemove    DL-CCTrChListToRemove          OPTIONAL
        }
    }

DL-DPCH-InfoPerRL-r4 ::=
    CHOICE {
        fdd                SEQUENCE {
            pCPICH-UsageForChannelEst PCPICH-UsageForChannelEst,
            dpch-FrameOffset          DPCH-FrameOffset,
            secondaryCPICH-Info        SecondaryCPICH-Info                OPTIONAL,
            dl-ChannelisationCodeList DL-ChannelisationCodeList,
            tpc-CombinationIndex        TPC-CombinationIndex,
            ssdt-CellIdentity            SSDT-CellIdentity                OPTIONAL,
            closedLoopTimingAdjMode     ClosedLoopTimingAdjMode          OPTIONAL
        }
    }

```



```

    },
    tdd
    dl-CCTrChListToEstablish SEQUENCE {
    DL-CCTrChList-r4 OPTIONAL,
    dl-CCTrChListToRemove DL-CCTrChListToRemove OPTIONAL
    }
}

```

....

```

UL-CCTrCH-r4 ::= SEQUENCE {
    tfcs-ID TFCS-IdentityPlain DEFAULT 1,
    ul-TargetSIR UL-TargetSIR,
    timeInfo TimeInfo,
    commonTimeslotInfo CommonTimeslotInfo OPTIONAL,
    tddOption CHOICE {
        tdd384 SEQUENCE {
            ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes OPTIONAL
        },
        tdd128 SEQUENCE {
            ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    }
}

```

```

UL-CCTrCHList ::= SEQUENCE (SIZE (1..maxCCTrCH)) OF
    UL-CCTrCH

```

```

UL-CCTrCHListToRemove ::= SEQUENCE {SIZE (1..maxCCTrCH)) OF
TFCS-IdentityPlain

```

.....

```

UL-DPCH-Info ::= SEQUENCE {
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            scramblingCodeType ScramblingCodeType,
            scramblingCode UL-ScramblingCode,
            numberOfDPDCH NumberOfDPDCH DEFAULT 1,
            spreadingFactor SpreadingFactor,
            tfci-Existence BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits NumberOfFBI-Bits OPTIONAL,
            puncturingLimit PuncturingLimit
        },
        tdd SEQUENCE {
            ul-TimingAdvance UL-TimingAdvanceControl OPTIONAL,
            ul-CCTrCHList UL-CCTrCHList OPTIONAL,
            ul-CCTrCHListToRemove UL-CCTrCHListToRemove OPTIONAL
        }
    }
}

```

```

UL-DPCH-Info-r4 ::= SEQUENCE {
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo-r4 OPTIONAL,
    modeSpecificInfo CHOICE {
        fdd SEQUENCE {
            scramblingCodeType ScramblingCodeType,
            scramblingCode UL-ScramblingCode,
            numberOfDPDCH NumberOfDPDCH DEFAULT 1,
            spreadingFactor SpreadingFactor,
            tfci-Existence BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits NumberOfFBI-Bits OPTIONAL,
            puncturingLimit PuncturingLimit
        },
        tdd SEQUENCE {

```

```
ul-TimingAdvance          UL-TimingAdvanceControl-r4  OPTIONAL,  
ul-CCTrCHList            UL-CCTrCHList-r4           OPTIONAL,  
ul-CCTrCHListToRemove    UL-CCTrCHListToRemove      OPTIONAL  
    }  
  }  
}
```

3GPP TSG-RAN WG2 Meeting #29
Gyeongju, Korea, May 13 – May 17, 2002

R2-021473

CR-Form-v5

CHANGE REQUEST

⌘ 25.331 CR 1444 ⌘ rev r1 ⌘ Current version: 5.0.0 ⌘

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

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

Title:	⌘ CCTrCH Release in TDD	
Source:	⌘ TSG-RAN WG2	
Work item code:	⌘ TEI	Date: ⌘ 5/7/2002
Category:	⌘ A	Release: ⌘ REL-4
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p>

Reason for change:	⌘ In TDD several CCTrCH may be supported. Signaling is provided for independent CCTrCH physical channel establishment, but not for the release.
Summary of change:	⌘ In Uplink DPCH Info and Downlink DPCH Info for each RL physical channels to establish are currently indicated by the UL & DL CCTrCH lists. This change adds CCTrCH physical channels to remove list to these IE's. Both the establishment and release CCTrCH lists are optional within these IE's.
	<p>DL-DPCH-InfoPerRL-r4: Correction made to R99 version of this IE (DL-DPCH-InfoPerRL) copied into the Rel4 version.</p> <p>UL-DPCH-Info-r4: Correction made to R99 version of this IE (UL-DPCH-Info) copied into the Rel4 version.</p>
Consequences if not approved:	⌘ When more then one CCTrCH exists in TDD release of physical channels associated with a particular CCTrCH is not possible.
	<p><u>Isolated impact analysis:</u> Isolated Impact exists for TDD.</p> <p>Would not affect implementations behaving like indicated in the CR, would</p>

affect implementations supporting the corrected functionality otherwise.

Impacted functionality: Establishment and release of dedicated physical channels when more than one CCTrCH exists.

Correction to a function where the specification was found erroneous and contained contradictions.

Clauses affected: ⌘ 10.3.6.21, 10.3.6.88, 11.3

Other specs affected:

⌘ -	Other core specifications	⌘ 25.331 v3.10.0, CR 1442
-	Test specifications	25.331 v4.4.0, CR 1443r1
-	O&M Specifications	

Other comments: ⌘ -

10.3.6.21 Downlink DPCH info for each RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	MP			
>FDD				
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.62	
>>DPCH frame offset	MP		Integer(0..38 144 by step of 256)	Offset (in number of chips) between the beginning of the P-CCPCH frame and the beginning of the DPCH frame This is called $\tau_{DPCH,n}$ in [26]
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.73	
>>DL channelisation code	MP	1 to <maxDPC H-DLchan>		For the purpose of physical channel mapping [27] the DPCHs are numbered, starting from DPCH number 1, according to the order that they are contained in this IE.
>>>Secondary scrambling code	MD		Secondary scrambling code 10.3.6.74	Default is the same scrambling code as for the Primary CPICH
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-AndCodenummer with "code number" in ASN.1
>>>Code number	MP		Integer(0..Sp reading factor - 1)	
>>>Scrambling code change	CH-SF/2		Enumerated (code change, no code change)	Indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.
>>TPC combination index	MP		TPC combination index 10.3.6.85	
>>SSDT Cell Identity	OP		SSDT Cell Identity 10.3.6.76	
>>Closed loop timing adjustment mode	CH- <i>TxDiversity Mode</i>		Integer(1, 2)	It is present if Tx Diversity is used in the radio link.
>TDD				
>>DL CCTrCh List	OP MP	1..<maxCC TrCH>		DL physical channels to establish or reconfigure list
>>>TFCS ID	MD		Integer(1..8)	Identity of this CCTrCh. Default value is 1
>>>Time info	MP		Time Info 10.3.6.83	
>>>Common timeslot info	MD		Common Timeslot Info 10.3.6.10	Default is the current Common timeslot info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>Downlink DPCH timeslots and codes	MD		Downlink Timeslots and Codes 10.3.6.32	Default is to use the old timeslots and codes.
>>>UL CCTrCH TPC List	MD	0..<maxCC TrCH>		UL CCTrCH identities for TPC commands associated with this DL CCTrCH. Default is previous list or all defined UL CCTrCHs
>>>>UL TPC TFCS Identity	MP		Transport Format Combination Set Identity 10.3.5.21	
>>DL CCTrCH List to Remove	OP	1..<maxCC TrCH>		DL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

Condition	Explanation
<i>SF/2</i>	The information element is mandatory present if the UE has an active compressed mode pattern sequence, which is using compressed mode method "SF/2". Otherwise the IE is not needed.
<i>TxDiversity Mode</i>	This IE is mandatory present if any TX Diversity Mode is used on the radio link, i.e. if STTD, "closed loop mode 1" or "closed loop mode 2" is used on the radio link. Otherwise the IE is not needed.

10.3.6.88 Uplink DPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91	
CHOICE mode	MP			
>FDD				
>>Scrambling code type	MP		Enumerated(short, long)	
>>Scrambling code number	MP		Integer(0..16777215)	
>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part
>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"
>>Number of FBI bits	OP		Integer (1, 2)	In bits.
>>Puncturing Limit	MP		Real(0.40 ..1 by step of 0.04)	
>TDD				
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96	
>>UL CCTrCH List	OP MP	1 to <maxCCTrCH>		UL physical channels to establish or reconfigure list
>>>TFCS ID	MD		Integer(1..8)	Default value is 1.
>>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB
>>>Time info	MP		Time info 10.3.6.83	
>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info
>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.
>>UL CCTrCH List to Remove	OP	1..<maxCC TrCH>		UL physical channels to remove list
>>>TFCS ID	MP		Integer(1..8)	

11.3 Information element definitions

```

-- *****
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- *****

DL-CCTrCh ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes        OPTIONAL,
    ul-CCTrChTPCList       UL-CCTrChTPCList                  OPTIONAL
}

DL-CCTrCh-r4 ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    tddOption              CHOICE {
        tdd384              SEQUENCE {
            dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes OPTIONAL
        },
        tdd128              SEQUENCE {
            dl-CCTrCH-TimeslotsCodes DownlinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    },
    ul-CCTrChTPCList       UL-CCTrChTPCList                  OPTIONAL
}

DL-CCTrChList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    DL-CCTrCh

DL-CCTrChListToRemove ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    TFCS-IdentityPlain

...

DL-DPCH-InfoPerRL ::=
    fdd                    CHOICE {
        pCPICH-UsageForChannelEst PCPICH-UsageForChannelEst,
        dpch-FrameOffset          DPCH-FrameOffset,
        secondaryCPICH-Info       SecondaryCPICH-Info                OPTIONAL,
        dl-ChannelisationCodeList DL-ChannelisationCodeList,
        tpc-CombinationIndex       TPC-CombinationIndex,
        ssdt-CellIdentity          SSDT-CellIdentity                OPTIONAL,
        closedLoopTimingAdjMode    ClosedLoopTimingAdjMode            OPTIONAL
    },
    tdd                      SEQUENCE {
        dl-CCTrChListToEstablish DL-CCTrChList                OPTIONAL,
        dl-CCTrChListToRemove    DL-CCTrChListToRemove            OPTIONAL
    }
}

DL-DPCH-InfoPerRL-r4 ::=
    fdd                    CHOICE {
        pCPICH-UsageForChannelEst PCPICH-UsageForChannelEst,
        dpch-FrameOffset          DPCH-FrameOffset,
        secondaryCPICH-Info       SecondaryCPICH-Info                OPTIONAL,
        dl-ChannelisationCodeList DL-ChannelisationCodeList,
        tpc-CombinationIndex       TPC-CombinationIndex,
        ssdt-CellIdentity          SSDT-CellIdentity                OPTIONAL,
        closedLoopTimingAdjMode    ClosedLoopTimingAdjMode            OPTIONAL
    },
    tdd                      SEQUENCE {
        dl-CCTrChListToEstablish DL-CCTrChList-r4                OPTIONAL,

```



```

| dl-CCTrChListToRemove DL-CCTrChListToRemove OPTIONAL
| }
|
...

UL-CCTrCH ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    ul-TargetSIR           UL-TargetSIR,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes          OPTIONAL
}

UL-CCTrCH-r4 ::=
    tfcs-ID                TFCS-IdentityPlain                DEFAULT 1,
    ul-TargetSIR           UL-TargetSIR,
    timeInfo               TimeInfo,
    commonTimeslotInfo     CommonTimeslotInfo                OPTIONAL,
    tddOption              CHOICE {
        tdd384              SEQUENCE {
            ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes          OPTIONAL
        },
        tdd128              SEQUENCE {
            ul-CCTrCH-TimeslotsCodes UplinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    }
}

UL-CCTrCHList ::=
    SEQUENCE (SIZE (1..maxCCTrCH)) OF
    UL-CCTrCH

| UL-CCTrCHListToRemove ::= SEQUENCE {SIZE (1..maxCCTrCH)} OF
| TFCS-IdentityPlain
|
...

UL-DPCH-Info ::=
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo                OPTIONAL,
    modeSpecificInfo         CHOICE {
        fdd                  SEQUENCE {
            scramblingCodeType ScramblingCodeType,
            scramblingCode     UL-ScramblingCode,
            numberOfDPDCH      NumberOfDPDCH                DEFAULT 1,
            spreadingFactor    SpreadingFactor,
            tfci-Existence     BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits   NumberOfFBI-Bits                OPTIONAL,
            puncturingLimit    PuncturingLimit
        },
        tdd                  SEQUENCE {
            ul-TimingAdvance   UL-TimingAdvanceControl          OPTIONAL,
            ul-CCTrCHList      UL-CCTrCHList                    OPTIONAL,
            ul-CCTrCHListToRemove UL-CCTrCHListToRemove OPTIONAL
        }
    }
}

UL-DPCH-Info-r4 ::=
    ul-DPCH-PowerControlInfo UL-DPCH-PowerControlInfo-r4                OPTIONAL,
    modeSpecificInfo         CHOICE {
        fdd                  SEQUENCE {
            scramblingCodeType ScramblingCodeType,
            scramblingCode     UL-ScramblingCode,
            numberOfDPDCH      NumberOfDPDCH                DEFAULT 1,
            spreadingFactor    SpreadingFactor,
            tfci-Existence     BOOLEAN,
            -- numberOfFBI-Bits is conditional based on history
            numberOfFBI-Bits   NumberOfFBI-Bits                OPTIONAL,
            puncturingLimit    PuncturingLimit
        },
        tdd                  SEQUENCE {

```

```
ul-TimingAdvance          UL-TimingAdvanceControl-r4  OPTIONAL,  
ul-CCTrCHList            UL-CCTrCHList-r4           OPTIONAL,  
ul-CCTrCHListToRemove    UL-CCTrCHListToRemove      OPTIONAL  
    }  
  }  
}
```