

Source: TSG-RAN WG2.

Title: CRs to 25.331 (1) (Rel-5 and associated Rel-6)

The following CRs are in RP-040334:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Workitem	Doc-2nd-Level
25.331	2385	-	Rel-5	Inconsistency in UE action for HFN initialisation	F	5.9.0	5.10.0	TEI5	R2-041773
25.331	2386	-	Rel-6	Inconsistency in UE action for HFN initialisation	F	6.2.0	6.3.0	TEI6	R2-041774
25.331	2387	-	Rel-5	Usage of different RB mapping info for TDD	F	5.9.0	5.10.0	TEI5	R2-041779
25.331	2388	-	Rel-6	Usage of different RB mapping info for TDD	A	6.2.0	6.3.0	TEI5	R2-041780
25.331	2389	-	Rel-5	TDD HS-DSCH Corrections	F	5.9.0	5.10.0	HSDPA-L23	R2-041781
25.331	2390	-	Rel-6	TDD HS-DSCH Corrections	A	6.2.0	6.3.0	HSDPA-L23	R2-041782
25.331	2391	-	Rel-5	Alignment of Tabular Definition with ASN.1 for HS-SCCH Info	F	5.9.0	5.10.0	HSDPA-L23	R2-041783
25.331	2392	-	Rel-6	Alignment of Tabular Definition with ASN.1 for HS-SCCH Info	A	6.2.0	6.3.0	HSDPA-L23	R2-041784
25.331	2393	-	Rel-5	Correction to HS-DSCH reception conditions	F	5.9.0	5.10.0	HSDPA-L23	R2-041786
25.331	2394	-	Rel-6	Correction to HS-DSCH reception conditions	A	6.2.0	6.3.0	HSDPA-L23	R2-041787
25.331	2395	-	Rel-5	Correction to RB mapping check	F	5.9.0	5.10.0	TEI5	R2-041788
25.331	2396	-	Rel-6	Correction to RB mapping check	A	6.2.0	6.3.0	TEI5	R2-041789
25.331	2397	-	Rel-5	Position Timestamp for A-GPS	F	5.9.0	5.10.0	TEI5	R2-041790
25.331	2398	-	Rel-6	Position Timestamp for A-GPS	A	6.2.0	6.3.0	TEI5	R2-041791
25.331	2399	-	Rel-5	Pending compressed mode reconfigurations	F	5.9.0	5.10.0	TEI5	R2-041792
25.331	2400	-	Rel-6	Pending compressed mode reconfigurations	A	6.2.0	6.3.0	TEI5	R2-041793

CHANGE REQUEST

25.331 CR 2385 # rev - # Current version: 5.9.0

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Inconsistency in UE action for HFN initialisation		
Source:	# RAN WG2		
Work item code:	# TEI5 Date: # 17/Aug/2004		
Category:	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> # F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. </td> <td style="width: 50%; vertical-align: top;"> 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) Rel-6 (Release 6) </td> </tr> </table>	# F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP 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) Rel-6 (Release 6)
# F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP 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) Rel-6 (Release 6)		

Reason for change:	# There are a few scenarios for which two different actions concerning the initialisation of the HFN component of the COUNT-C are specified in the specification. It is not currently clear which action the UE should take in those cases. The problematic scenarios are listed below. <ol style="list-style-type: none"> 1. Cell update procedure occurs during a reconfiguration procedure involving AM RLC size change and the CELL UPDATE CONFIRM message indicates that SRNS relocation should be performed. 2. SRNS relocation and AM RLC size change occur simultaneously by a CELL UPDATE CONFIRM message. See discussion in R2-041452 for detail.
Summary of change:	# It is proposed for each scenario; <ol style="list-style-type: none"> 1. To clarify that the UE shall initialise the HFN of COUNT-C according to specified actions for the case of SRNS relocation. 2. To clarify that the UE shall initialise the HFN of COUNT-C according to specified actions for the case of SRNS relocation.
Consequences if not approved:	# The UE and the UTRAN could use different value for the HFN initialisation. This would cause a dropped call.

Isolated impact analysis:

This CR has isolated impact for the above mentioned scenarios.

If the UE supports this CR and the UTRAN does not:

The UTRAN may use different value for the HFN initialisation from the one specified in this CR. This would lead to a dropped call.

If the UTRAN supports this CR and the UE does not:

The UE may use different value for the HFN initialisation from the one specified in this CR. This would lead to a dropped call.

Impact on test specifications:

No impact is foreseen.

Clauses affected: ⌘ 8.5.21

Other specs affected:

	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	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/specs/CR.htm>.

Below is a brief summary:

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

8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration: and

1> none of the following conditions is met:

- The RLC size change is caused by a CELL UPDATE CONFIRM and the CELL UPDATE CONFIRM message includes the IE "Downlink counter synchronisation info".

- The RLC size change is caused by a reconfiguration message, and a cell update procedure occurs during this reconfiguration procedure and the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator" being set to TRUE for the corresponding radio bearer.

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

CHANGE REQUEST

25.331 CR 2386 # rev **-** # Current version: **6.2.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Inconsistency in UE action for HFN initialisation		
Source:	# RAN WG2		
Work item code:	# TEI6	Date:	# 17/Aug/2004
Category:	# F	Release:	# Rel-6
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	# There are a few scenarios for which two different actions concerning the initialisation of the HFN component of the COUNT-C are specified in the specification. It is not currently clear which action the UE should take in those cases. The problematic scenarios are listed below. <ol style="list-style-type: none"> 1. Cell update procedure occurs during a reconfiguration procedure involving AM RLC size change and the CELL UPDATE CONFIRM message indicates that SRNS relocation should be performed. 2. Cell update procedure occurs during a reconfiguration procedure involving AM RLC size change and the CELL UPDATE CONFIRM message includes "Re-establish indicator" set to TRUE. 3. SRNS relocation and AM RLC size change occur simultaneously by a CELL UPDATE CONFIRM message. See discussion in R2-041452 for detail.
Summary of change:	# It is proposed for each scenario; <ol style="list-style-type: none"> 1. To clarify that the UE shall initialise the HFN of COUNT-C according to specified actions for the case of SRNS relocation. 2. To clarify that the UE shall initialise the HFN of COUNT-C according to specified actions for the case that the "Re-establish indicator" is set to TRUE.

	3. To clarify that the UE shall initialise the HFN of COUNT-C according to specified actions for the case of SRNS relocation.
Consequences if not approved:	⌘ The UE and the UTRAN could use different value for the HFN initialisation. This would cause a dropped call. Isolated impact analysis: This CR has isolated impact for the above mentioned scenarios. If the UE supports this CR and the UTRAN does not: The UTRAN may use different value for the HFN initialisation from the one specified in this CR. This would lead to a dropped call. If the UTRAN supports this CR and the UE does not: The UE may use different value for the HFN initialisation from the one specified in this CR. This would lead to a dropped call. Impact on test specifications: No impact is foreseen.

Clauses affected:	⌘ 8.5.21																
Other specs affected:	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> <th></th> <th>⌘</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> <td>Other core specifications</td> <td></td> </tr> <tr> <td></td> <td>X</td> <td>Test specifications</td> <td></td> </tr> <tr> <td></td> <td>X</td> <td>O&M Specifications</td> <td></td> </tr> </tbody> </table>	Y	N		⌘		X	Other core specifications			X	Test specifications			X	O&M Specifications	
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8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration: and

1> none of the following conditions is met:

- The RLC size change is caused by a CELL UPDATE CONFIRM and the CELL UPDATE CONFIRM message includes the IE "Downlink counter synchronisation info".

- The RLC size change is caused by a reconfiguration message, and a cell update procedure occurs during the reconfiguration procedure and the CELL UPDATE CONFIRM message includes the IE "Downlink counter synchronisation info".

- The RLC size change is caused by a reconfiguration message, and a cell update procedure occurs during this reconfiguration procedure and the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator" being set to TRUE for the corresponding radio bearer.

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

CR-Form-v7

CHANGE REQUEST

25.331 CR 2387 # rev - # Current version: 5.9.0

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Usage of different RB mapping info for TDD		
Source:	# RAN WG2		
Work item code:	# TEI5	Date:	# 17 th August 2004
Category:	# F		Release: # Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
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	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# - Clarifications on the selection of RB multiplexing options for FDD have been agreed. CRs were agreed at RAN2#42 and were approved by RAN#24. It was also agreed that similar clarifications need to be made for TDD.
Summary of change:	# - The currently "hidden" statements in 7.2.2.2 & 7.2.2.3 that the UE shall select a multiplexing option, have been made explicit in 8.5.21 for TDD. - A check on mapping validity to USCH is also added to 8.6.4.8.
Consequences if not approved:	# - For TDD, it will remain unclear which multiplexing option the UE should select under different conditions.

Clauses affected:	# 8.5.21; 8.6.4.8						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	#	X	#	
Y	N						
#	X						
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#	X						
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#	X						
Other comments:	#						

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.

1> for TDD, select the multiplexing option according to the following:

2> if the UE is in CELL_FACH state:

3> if the RB has the multiplexing options with the transport channel types "FACH" and "DSCH" for the DL, and the corresponding FACH and DSCH transport channels are configured, and with the transport channel types "RACH" and "USCH" for the UL, and the corresponding RACH and USCH transport channels are configured:

4> if both PUSCH and PDSCH are allocated:

5> select the multiplexing option "DSCH" for DL and "USCH" for UL; else

4> if only PUSCH is allocated:

5> select the multiplexing option "FACH" for DL and "USCH" for UL; else

- 4> if only PDSCH is allocated:
 - 5> select the multiplexing option "DSCH" for DL and "RACH" for UL; else
- 4> if neither PUSCH nor PDSCH is allocated:
 - 5> select the multiplexing option "FACH" for DL and "RACH" for UL.
- 3> if the RB has a single multiplexing option with the transport channel type "FACH" for the DL and the transport channel type "RACH" for the UL:
 - 4> select this multiplexing option; else
- 3> if the RB has a single multiplexing option with the transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with the transport channel type "USCH" for the UL, and the corresponding USCH transport channel is configured:
 - 4> select this multiplexing option; else
- 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel "USCH" for the UL, and the corresponding USCH transport channel is configured:
 - 4> select this multiplexing option;
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration:

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

- 1> for each multiplexing option of the RB:
 - 2> if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH, [USCH](#) or DSCH or HS-DSCH is included:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the uplink logical channel transferring data PDUs has more than one element not equal to zero:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> for each logical channel in that multiplexing option:
 - 3> if the value of the IE "RLC size list" is set to "Explicit list":
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - 4> if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
 - 3> if the value of the IE "RLC size list" is set to "All":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or

- 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 3> if the value of the IE "RLC size list" is set to "Configured":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the "RB mapping info" is considered as valid according to the rules above:
 - 2> delete all previously stored multiplexing options for that radio bearer;
 - 2> store each new multiplexing option for that radio bearer;
 - 2> perform the actions as specified in subclause 8.5.21.
- 1> if the IE "Uplink transport channel type" is set to the value "RACH":
 - 2> in FDD:
 - 3> refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in System Information Block 5 or System Information Block 6.
 - 2> in TDD:
 - 3> use the first Transport Format of the PRACH of the IE "PRACH system information list" at the position equal to the value in the IE "RLC size index".

In case IE "RLC info" includes IE "Downlink RLC mode" ("DL RLC logical channel info" is mandatory present) but IE "Number of downlink RLC logical channels" is absent in the corresponding IE "RB mapping info", the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

If ciphering is applied, UTRAN should not map Transparent Mode RBs of different CN domains on the same transport channel and it should not map transparent mode SRBs and RBs onto the same transport channel. In such cases the UE behaviour is not specified.

CR-Form-v7

CHANGE REQUEST

25.331 CR 2388 # rev - # Current version: 6.2.0

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Usage of different RB mapping info for TDD		
Source:	# RAN WG2		
Work item code:	# TEI5	Date:	# 17 th August 2004
Category:	# A	Release:	# Rel-6
	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)
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			Rel-5 (Release 5)
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Summary of change:	# - The currently "hidden" statements in 7.2.2.2 & 7.2.2.3 that the UE shall select a multiplexing option, have been made explicit in 8.5.21 for TDD. - A check on mapping validity to USCH is also added to 8.6.4.8.
Consequences if not approved:	# - For TDD, it will remain unclear which multiplexing option the UE should select under different conditions.

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When the UE receives the IE "RB mapping info" and/or the IE "Transport format set", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.

1> for TDD, select the multiplexing option according to the following:

2> if the UE is in CELL_FACH state:

3> if the RB has the multiplexing options with the transport channel types "FACH" and "DSCH" for the DL, and the corresponding FACH and DSCH transport channels are configured, and with the transport channel types "RACH" and "USCH" for the UL, and the corresponding RACH and USCH transport channels are configured:

4> if both PUSCH and PDSCH are allocated:

5> select the multiplexing option "DSCH" for DL and "USCH" for UL; else

4> if only PUSCH is allocated:

5> select the multiplexing option "FACH" for DL and "USCH" for UL; else

- 4> if only PDSCH is allocated:
 - 5> select the multiplexing option "DSCH" for DL and "RACH" for UL; else
- 4> if neither PUSCH nor PDSCH is allocated:
 - 5> select the multiplexing option "FACH" for DL and "RACH" for UL.
- 3> if the RB has a single multiplexing option with the transport channel type "FACH" for the DL and the transport channel type "RACH" for the UL:
 - 4> select this multiplexing option; else
- 3> if the RB has a single multiplexing option with the transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with the transport channel type "USCH" for the UL, and the corresponding USCH transport channel is configured:
 - 4> select this multiplexing option; else
- 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
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 - 4> select this multiplexing option;
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration:

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

- 1> for each multiplexing option of the RB:
 - 2> if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH, [USCH](#) or DSCH or HS-DSCH is included:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the uplink logical channel transferring data PDUs has more than one element not equal to zero:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> for each logical channel in that multiplexing option:
 - 3> if the value of the IE "RLC size list" is set to "Explicit list":
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - 4> if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
 - 3> if the value of the IE "RLC size list" is set to "All":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or

- 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 3> if the value of the IE "RLC size list" is set to "Configured":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the "RB mapping info" is considered as valid according to the rules above:
 - 2> delete all previously stored multiplexing options for that radio bearer;
 - 2> store each new multiplexing option for that radio bearer;
 - 2> perform the actions as specified in subclause 8.5.21.
- 1> if the IE "Uplink transport channel type" is set to the value "RACH":
 - 2> in FDD:
 - 3> refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in System Information Block 5, System Information Block 5bis or System Information Block 6.
 - 2> in TDD:
 - 3> use the first Transport Format of the PRACH of the IE "PRACH system information list" at the position equal to the value in the IE "RLC size index".

In case IE "RLC info" includes IE "Downlink RLC mode" ("DL RLC logical channel info" is mandatory present) but IE "Number of downlink RLC logical channels" is absent in the corresponding IE "RB mapping info", the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

If ciphering is applied, UTRAN should not map Transparent Mode RBs of different CN domains on the same transport channel and it should not map transparent mode SRBs and RBs onto the same transport channel. In such cases the UE behaviour is not specified.

CHANGE REQUEST

25.331 CR 2389 # rev - # Current version: 5.9.0

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# TDD HS-DSCH Corrections		
Source:	# RAN WG2		
Work item code:	# HSDPA-L23	Date:	# 17 th August 2004
Category:	# F		Release: # Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# For 3.84 Mcps TDD provision is not made for signalling of SIR _{TARGET} via HS-SICH Power Control Info in Open Loop Power Control
	For TDD (1.28 and 3.84 Mcps), 25.331 enables a separate BLER target to be defined for each HS-SCCH; however, each HS-SCCH cannot be power controlled individually due to L1 constraints.
Summary of change:	# - Use of HS-SICH Power Control Info is included as a means of signalling SIR _{TARGET} to the UE. - It is clarified that a single BLER target is used for an entire set of HS-SCCHs.
Consequences if not approved:	# - For 3.84 Mcps TDD, it will be unclear how the UE calculates initial UL transmit power for HS-SICH. For both 1.28 and 3.84 Mcps TDD it will remain unclear how BLER target is used. Therefore HS-DSCH may not be correctly implemented. - Impact analysis: Impacts TDD HS-DSCH only

Clauses affected:	# 8.5.7, 8.6.6.33, 10.3.6.36a											
Other specs affected:	#	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	#
	Y	N										
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<input type="checkbox"/>	<input checked="" type="checkbox"/>											
		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/specs/CR.htm>. Below is a brief summary:

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

8.5.7 Open loop power control

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

- 1> acquire valid versions of the necessary System Information IEs as follows:
 - 2> if the UE has stored valid versions of the IEs "Primary CPICH Tx power" and "Constant value":
 - 3> use the stored content of the IEs.
 - 2> otherwise:
 - 3> read and store the IE "Primary CPICH Tx power" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
- 2> if the UE has a valid version of the IE "UL interference" stored:
 - 3> use the stored content of the IE "UL interference".
- 2> otherwise:
 - 3> read and store the IE "UL interference" in System Information Block type 7;
 - 3> if the UE fails to read the IE "UL interference" in System Information Block type 7 due to bad radio conditions, the UE shall use the last stored IE "UL interference".

1> measure the value for the CPICH_RSCP;

1> calculate the power for the first preamble as:

$$\text{Preamble_Initial_Power} = \text{Primary CPICH TX power} - \text{CPICH_RSCP} + \text{UL interference} + \text{Constant Value}$$

Where,

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

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

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

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

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

2> resubmit to the physical layer the new calculated Preamble_Initial_Power.

For 3.84 Mcps TDD the UE shall:

- 1> if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":
 - 2> prior to DPCH transmission the UE shall:
 - 3> acquire valid versions of the necessary System Information IEs as follows:
 - 4> if the UE has stored valid versions of the IEs "Primary CCPCH Tx power" and "DPCH Constant value":
 - 5> use the stored content of the IEs.
 - 4> otherwise:

- 5> read and store the IE "Primary CCPCH Tx power" and "DPCH Constant value" in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
- 3> if the UE has a valid version of the IE "UL interference" for each active UL timeslot stored:
 - 4> use the stored content of the IE "UL interference" for each active UL timeslot.
- 3> otherwise:
 - 4> read and store the IE "UL Timeslot Interference" for each active UL timeslot in System Information Block type 14;
 - 4> if the UE fails to read the IE "UL Timeslot Interference" for each active UL time slot in System Information Block type 14 due to bad radio conditions, the UE shall use the last stored IE "UL Timeslot interference" for each active UL timeslot.
- 1> otherwise:
 - 2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".
- 1> for PUSCH, PRACH and HS-SICH power control:
 - 2> prior to PUSCH or PRACH transmission the UE shall:
 - 3> acquire valid versions of the necessary System Information IEs as follows:
 - 4> if the UE has stored valid versions of the IEs "Primary CCPCH Tx power" and "PUSCH Constant value" for PUSCH transmissions or "PRACH Constant value" for PRACH transmissions:
 - 5> use the stored content of the IEs.
 - 4> otherwise:
 - 5> read and store the IE "Primary CCPCH Tx power" and "PUSCH Constant value" for PUSCH transmissions or "PRACH Constant value" for PRACH transmissions in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
 - 3> if the UE has a valid version of the IE "UL interference" for each active UL timeslot stored:
 - 4> use the stored content of the IE "UL interference" for each active UL timeslot.
 - 3> otherwise:
 - 4> read and store the IE "UL Timeslot Interference" for each active UL timeslot in System Information Block type 14;
 - 4> if the UE fails to read the IE "UL Timeslot Interference" for each active UL time slot in System Information Block type 14 due to bad radio conditions, the UE shall use the last stored IE "UL Timeslot interference" for each active UL timeslot.

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{PRACH} = L_{PCCPCH} + I_{BTS} + PRACH \text{ Constant value,}$$

- 2> 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8.

- 1> calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + DPCH \text{ Constant value}$$

1> calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{\text{PUSCH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{PUSCH Constant value}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement:

$$P_{\text{HS-SICH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{HS-SICH Constant value}$$

2> when transmitting an Acknowledgement:

$$P_{\text{HS-SICH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{HS-SICH Constant value} + \text{Ack_Nack power offset}$$

Where, for all the above equations for 3.84 Mcps TDD the following apply:

- P_{PRACH} , P_{DPCH} , P_{PUSCH} and $P_{\text{HS-SICH}}$: Transmitter power level in dBm;
- Pathloss values:
 - L_{PCCPCH} : Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE "Uplink DPCH Power Control info").
 - L_0 : Long term average of path loss in dB;
 - If the midamble is used in the evaluation of L_{PCCPCH} and L_0 , and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS} : Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α : α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1. If UE is capable of estimating its position by using the OTDOA IPDL method, the UE shall use the IPDL- α parameter.
- $\text{SIR}_{\text{TARGET}}$: Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" or in IE "HS-SICH Power Control Info" respectively.
- PRACH Constant value: PRACH Constant value shall have the value of the IE "PRACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- PUSCH Constant value: PUSCH Constant value shall have the value of the IE "PUSCH Constant value".
- HS-SICH Constant value: HS-SICH Constant value shall have the value of the IE "HS-SICH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.
- If IPDLs are applied, the UE may increase UL Tx power by the value given in the IE "Max power increase". This power increase is only allowed in the slots between an idle slot and the next beacon slot.
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info".

For 1.28 Mcps TDD the UE shall:

1> acquire valid versions of the necessary System Information IEs as follows:

2> if the UE has stored a valid version of the IE "Primary CCPCH Tx Power":

3> use the stored content of the IE.

2> otherwise:

3> read and store the IE "Primary CCPCH Tx Power" from System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).

1> calculate the UL transmit power according to the following formula for each UpPCH code transmission:

$$P_{\text{UpPCH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{UpPCHdes}} + (i-1) * P_{\text{Wramp}}$$

NOTE: When i equals 1, the initial signature power "Signature_Initial_Power" defined in [33] corresponds to P_{UpPCH} with i set to 1.

1> calculate the UL transmit power according to the following formula for each PRACH transmission:

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{PRACHdes}} + (i_{\text{UpPCH}} - 1) * P_{\text{Wramp}}$$

1> calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{\text{USCH}} = \text{PRX}_{\text{PUSCHdes}} + L_{\text{PCCPCH}}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement;

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}}$$

2> when transmitting an Acknowledgement

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}} + \text{Ack-Nack Power Offset}$$

2> Once the UE receives TPC bits relating to the HS-SICH, it transitions to closed loop power control. If no TPC command for the HS-SICH is detected between successive HS-SICH transmissions, the UE should revert to open loop power control until the next TPC command is detected.

1> calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{\text{DPCH}} = \text{PRX}_{\text{DPCHdes}} + L_{\text{PCCPCH}}$$

Where:

- P_{UpPCH} , P_{PRACH} , P_{DPCH} , $P_{\text{HS-SICH}}$ & P_{USCH} : Transmitter power level in dBm.
- L_{PCCPCH} : Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE "Uplink DPCH Power Control info").
- i is the number of transmission attempts on UpPCH, $i=1 \dots \text{Max SYNC_UL Transmissions}$.
- i_{UpPCH} is the final value of i .
- $\text{PRX}_{\text{PRACHdes}}$: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- $\text{PRX}_{\text{UpPCHdes}}$: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX_{UpPCHdes}" in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in IE "Uplink Timing Advance

Control" contained in a protocol message triggering a hard handover or a transition from cell FACH to cell DCH state.

- $PRX_{PUSCHdes}$: Desired PUSCH RX power at the cell's receiver in dBm signalled to the UE in IE "PUSCH Power Control Info".
- $PRX_{DPCHdes}$: Desired DPCH RX power at the cell's receiver in dBm signalled to the UE in IE "Uplink DPCH Info" and IE "Uplink DPCH Power Control Info".
- Pwr_{ramp} : The UE shall increase its transmission power by the value of the IE "Power Ramp step" by every UpPCH transmission. Its value is signalled in the IE "SYNC UL info" in System Information Block type 5 and System Information Block type 6 or is signalled to the UE in the IE "Uplink Timing Advance Control" contained in a protocol message triggering a hard handover or a transition from cell FACH state to cell DCH state.
- $PRX_{HS-SICH}$: Desired HS-SICH RX power at the cell's receiver in dBm signalled to the UE in IE "Downlink HS-PDSCH Information".
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info".

----- 2nd Change -----

8.6.6.33 HS-SCCH Info

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

- 1> store the received configuration.

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

- 1> in the case of FDD:

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

- 1> in the case of TDD:

- 2> receive the HS-SCCH(s) according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.
- 2> transmit the HS-SICH according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.

2> for HS-SCCH power control the UE shall use the "BLER target" signalled in the first occurrence of the "HS-SCCH Set Configuration".

- 2> in 3.84 Mcps TDD:

- 3> use the parameters specified in the IE "HS-SICH power control info" and "ACK-NAK power offset" for open loop power control as defined in subclause 8.5.7.

- 2> in 1.28 Mcps TDD:

- 3> use the IE " $PRX_{HS-SICH}$ " and "ACK-NAK power offset" to calculate and set an initial uplink transmission power;
- 3> use the IE "TPC step size" upon reception of TPC commands for closed loop power control.

10.3.6.36a HS-SCCH Info

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP				REL-5
>FDD					REL-5
>>DL Scrambling Code	MD		Secondary scrambling code 10.3.6.74	DL Scrambling code to be applied for HS-DSCH and HS-SCCH. Default is same scrambling code as for the primary CPICH.	REL-5
>>>HS-SCCH Channelisation Code Information	MP	1 to <maxHSS CCHcodes >			REL-5
>>>>HS-SCCH Channelisation Code	MP		Integer (0..127)		REL-5
>TDD					REL-5
>>CHOICE <i>TDD option</i>	MP				REL-5
>>>3.84 Mcps					REL-5
>>>> Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB	REL-5
>>>>> HS-SICH Power Control Info	MP		HS-SICH Power Control Info 10.3.6.36b		REL-5
>>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)	HS-SCCH always uses burst type 1.	REL-5
>>>>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>>>>>Midamble Shift	CV-UE		Integer(0..15)		REL-5
>>>>>>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10 (HS-SCCH BLER quality target) The UE shall use the BLER target signalled in the first occurrence of the HS-SCCH Set Configuration.	REL-5
>>>>>>>>>>>HS-SICH configuration					REL-5
>>>>>>>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>>>>>>>Channelisation code	MP		Enumerated ((16/1)		REL-5

			..(16/16))		
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)	HS-SICH always uses burst type 1.	REL-5
>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>1.28 Mcps					REL-5
>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>First Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Second Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)		REL-5
>>>>> Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target) The UE shall use the BLER target signalled in the first occurrence of the HS-SCCH Set Configuration.	REL-5
>>>>>HS-SICH configuration					REL-5
>>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)		REL-5
>>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>>Ack-Nack Power Offset	MP		Integer (-7..8 by step	dB.	REL-5

			of 1)		
>>>>>PRX _{HS-SICH}	MP		Integer (-120..-58 by step of 1)	dBm. Desired power level for HS-SICH.	REL-5
>>>>>TPC step size	MP		Integer (1, 2, 3)	dB.	REL-5

Condition	Explanation
<i>UE</i>	This IE is mandatory present when the value of the IE "Midamble Allocation Mode" is "UE specific midamble" and not needed otherwise.

----- End of Changes -----

CHANGE REQUEST

25.331 CR 2390 # rev - # Current version: 6.2.0

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# TDD HS-DSCH Corrections		
Source:	# RAN WG2		
Work item code:	# HSDPA-L23	Date:	# 17 th August 2004
Category:	# A	Release:	# Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# For 3.84 Mcps TDD provision is not made for signalling of SIR _{TARGET} via HS-SICH Power Control Info in Open Loop Power Control
	For TDD (1.28 and 3.84 Mcps), 25.331 enables a separate BLER target to be defined for each HS-SCCH; however, each HS-SCCH cannot be power controlled individually due to L1 constraints.
Summary of change:	# - Use of HS-SICH Power Control Info is included as a means of signalling SIR _{TARGET} to the UE. - It is clarified that a single BLER target is used for an entire set of HS-SCCHs.
Consequences if not approved:	# - For 3.84 Mcps TDD, it will be unclear how the UE calculates initial UL transmit power for HS-SICH. For both 1.28 and 3.84 Mcps TDD it will remain unclear how BLER target is used. Therefore HS-DSCH may not be correctly implemented. - Impact analysis: Impacts TDD HS-DSCH only

Clauses affected:	# 8.5.7, 8.6.6.33, 10.3.6.36a		
Other specs affected:	#	Y	N
		#	X
		#	X
		#	X
Other comments:	#		

How to create CRs using this form:

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

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

8.5.7 Open loop power control

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

- 1> acquire valid versions of the necessary System Information IEs as follows:
 - 2> if the UE has stored valid versions of the IEs "Primary CPICH Tx power" and "Constant value":
 - 3> use the stored content of the IEs.
 - 2> otherwise:
 - 3> read and store the IE "Primary CPICH Tx power" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
- 2> if the UE has a valid version of the IE "UL interference" stored:
 - 3> use the stored content of the IE "UL interference".
- 2> otherwise:
 - 3> read and store the IE "UL interference" in System Information Block type 7;
 - 3> if the UE fails to read the IE "UL interference" in System Information Block type 7 due to bad radio conditions, the UE shall use the last stored IE "UL interference".

1> measure the value for the CPICH_RSCP;

1> calculate the power for the first preamble as:

$$\text{Preamble_Initial_Power} = \text{Primary CPICH TX power} - \text{CPICH_RSCP} + \text{UL interference} + \text{Constant Value}$$

Where,

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

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

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

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

- 2> continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and
- 2> resubmit to the physical layer the new calculated Preamble_Initial_Power.

For 3.84 Mcps TDD the UE shall:

- 1> if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":
 - 2> prior to DPCH transmission the UE shall:
 - 3> acquire valid versions of the necessary System Information IEs as follows:
 - 4> if the UE has stored valid versions of the IEs "Primary CCPCH Tx power" and "DPCH Constant value":
 - 5> use the stored content of the IEs.
 - 4> otherwise:

- 5> read and store the IE "Primary CCPCH Tx power" and "DPCH Constant value" in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
- 3> if the UE has a valid version of the IE "UL interference" for each active UL timeslot stored:
 - 4> use the stored content of the IE "UL interference" for each active UL timeslot.
- 3> otherwise:
 - 4> read and store the IE "UL Timeslot Interference" for each active UL timeslot in System Information Block type 14;
 - 4> if the UE fails to read the IE "UL Timeslot Interference" for each active UL time slot in System Information Block type 14 due to bad radio conditions, the UE shall use the last stored IE "UL Timeslot interference" for each active UL timeslot.
- 1> otherwise:
 - 2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".
- 1> for PUSCH, PRACH and HS-SICH power control:
 - 2> prior to PUSCH or PRACH transmission the UE shall:
 - 3> acquire valid versions of the necessary System Information IEs as follows:
 - 4> if the UE has stored valid versions of the IEs "Primary CCPCH Tx power" and "PUSCH Constant value" for PUSCH transmissions or "PRACH Constant value" for PRACH transmissions:
 - 5> use the stored content of the IEs.
 - 4> otherwise:
 - 5> read and store the IE "Primary CCPCH Tx power" and "PUSCH Constant value" for PUSCH transmissions or "PRACH Constant value" for PRACH transmissions in System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).
 - 3> if the UE has a valid version of the IE "UL interference" for each active UL timeslot stored:
 - 4> use the stored content of the IE "UL interference" for each active UL timeslot.
 - 3> otherwise:
 - 4> read and store the IE "UL Timeslot Interference" for each active UL timeslot in System Information Block type 14;
 - 4> if the UE fails to read the IE "UL Timeslot Interference" for each active UL time slot in System Information Block type 14 due to bad radio conditions, the UE shall use the last stored IE "UL Timeslot interference" for each active UL timeslot.

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{PRACH} = L_{PCCPCH} + I_{BTS} + PRACH \text{ Constant value,}$$

- 2> 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8.

- 1> calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + DPCH \text{ Constant value}$$

1> calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{\text{PUSCH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{PUSCH Constant value}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement:

$$P_{\text{HS-SICH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{HS-SICH Constant value}$$

2> when transmitting an Acknowledgement:

$$P_{\text{HS-SICH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{HS-SICH Constant value} + \text{Ack_Nack power offset}$$

Where, for all the above equations for 3.84 Mcps TDD the following apply:

- P_{PRACH} , P_{DPCH} , P_{PUSCH} and $P_{\text{HS-SICH}}$: Transmitter power level in dBm;
- Pathloss values:
 - L_{PCCPCH} : Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE "Uplink DPCH Power Control info").
 - L_0 : Long term average of path loss in dB;
 - If the midamble is used in the evaluation of L_{PCCPCH} and L_0 , and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS} : Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α : α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1. If UE is capable of estimating its position by using the OTDOA IPDL method, the UE shall use the IPDL- α parameter.
- $\text{SIR}_{\text{TARGET}}$: Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" or in IE "HS-SICH Power Control Info" respectively.
- PRACH Constant value: PRACH Constant value shall have the value of the IE "PRACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- PUSCH Constant value: PUSCH Constant value shall have the value of the IE "PUSCH Constant value".
- HS-SICH Constant value: HS-SICH Constant value shall have the value of the IE "HS-SICH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.
- If IPDLs are applied, the UE may increase UL Tx power by the value given in the IE "Max power increase". This power increase is only allowed in the slots between an idle slot and the next beacon slot.
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info".

For 1.28 Mcps TDD the UE shall:

1> acquire valid versions of the necessary System Information IEs as follows:

2> if the UE has stored a valid version of the IE "Primary CCPCH Tx Power":

3> use the stored content of the IE.

2> otherwise:

3> read and store the IE "Primary CCPCH Tx Power" from System Information Block type 6 (or System Information Block type 5, if System Information Block type 6 is not being broadcast).

1> calculate the UL transmit power according to the following formula for each UpPCH code transmission:

$$P_{\text{UpPCH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{UpPCHdes}} + (i-1) * P_{\text{Wramp}}$$

NOTE: When i equals 1, the initial signature power "Signature_Initial_Power" defined in [33] corresponds to P_{UpPCH} with i set to 1.

1> calculate the UL transmit power according to the following formula for each PRACH transmission:

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{PRACHdes}} + (i_{\text{UpPCH}}-1) * P_{\text{Wramp}}$$

1> calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{\text{USCH}} = \text{PRX}_{\text{PUSCHdes}} + L_{\text{PCCPCH}}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement;

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}}$$

2> when transmitting an Acknowledgement

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}} + \text{Ack-Nack Power Offset}$$

2> Once the UE receives TPC bits relating to the HS-SICH, it transitions to closed loop power control. If no TPC command for the HS-SICH is detected between successive HS-SICH transmissions, the UE should revert to open loop power control until the next TPC command is detected.

1> calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{\text{DPCH}} = \text{PRX}_{\text{DPCHdes}} + L_{\text{PCCPCH}}$$

Where:

- P_{UpPCH} , P_{PRACH} , P_{DPCH} , $P_{\text{HS-SICH}}$ & P_{USCH} : Transmitter power level in dBm.
- L_{PCCPCH} : Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE "Uplink DPCH Power Control info").
- i is the number of transmission attempts on UpPCH, $i=1 \dots \text{Max SYNC_UL Transmissions}$.
- i_{UpPCH} is the final value of i .
- $\text{PRX}_{\text{PRACHdes}}$: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- $\text{PRX}_{\text{UpPCHdes}}$: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX_{UpPCHdes}" in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in IE "Uplink Timing Advance

Control" contained in a protocol message triggering a hard handover or a transition from cell FACH to cell DCH state.

- $PRX_{PUSCH_{des}}$: Desired PUSCH RX power at the cell's receiver in dBm signalled to the UE in IE "PUSCH Power Control Info".
- $PRX_{DPCH_{des}}$: Desired DPCH RX power at the cell's receiver in dBm signalled to the UE in IE "Uplink DPCH Info" and IE "Uplink DPCH Power Control Info".
- Pwr_{ramp} : The UE shall increase its transmission power by the value of the IE "Power Ramp step" by every UpPCH transmission. Its value is signalled in the IE "SYNC UL info" in System Information Block type 5 and System Information Block type 6 or is signalled to the UE in the IE "Uplink Timing Advance Control" contained in a protocol message triggering a hard handover or a transition from cell FACH state to cell DCH state.
- $PRX_{HS-SICH}$: Desired HS-SICH RX power at the cell's receiver in dBm signalled to the UE in IE "Downlink HS-PDSCH Information".
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info".

----- 2nd Change -----

8.6.6.33 HS-SCCH Info

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

- 1> store the received configuration.

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

- 1> in the case of FDD:

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

- 1> in the case of TDD:

- 2> receive the HS-SCCH(s) according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.
- 2> transmit the HS-SICH according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.

[2> for HS-SCCH power control the UE shall use the "BLER target" signalled in the first occurrence of the "HS-SCCH Set Configuration".](#)

- 2> in 3.84 Mcps TDD:

- 3> use the parameters specified in the IE "HS-SICH power control info" and "ACK-NAK power offset" for open loop power control as defined in subclause 8.5.7.

- 2> in 1.28 Mcps TDD:

- 3> use the IE " $PRX_{HS-SICH}$ " and "ACK-NAK power offset" to calculate and set an initial uplink transmission power;
- 3> use the IE "TPC step size" upon reception of TPC commands for closed loop power control.

----- 3rd Change -----

10.3.6.36a HS-SCCH Info

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP				REL-5
>FDD					REL-5
>>DL Scrambling Code	MD		Secondary scrambling code 10.3.6.74	DL Scrambling code to be applied for HS-DSCH and HS-SCCH. Default is same scrambling code as for the primary CPICH.	REL-5
>>>HS-SCCH Channelisation Code Information	MP	1 to <maxHSS CCHcodes >			REL-5
>>>>HS-SCCH Channelisation Code	MP		Integer (0..127)		REL-5
>TDD					REL-5
>>CHOICE <i>TDD option</i>	MP				REL-5
>>>3.84 Mcps					REL-5
>>>> Ack-Nack Power Offset	MP		Integer (-7.8 by step of 1)	dB	REL-5
>>>>> HS-SICH Power Control Info	MP		HS-SICH Power Control Info 10.3.6.36b		REL-5
>>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)	HS-SCCH always uses burst type 1.	REL-5
>>>>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>>>>>Midamble Shift	CV-UE		Integer(0..15)		REL-5
>>>>>>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target) The UE shall use the BLER target signalled in the first occurrence of the HS-SCCH Set Configuration	REL-5
>>>>>>>>>>>HS-SICH configuration					REL-5
>>>>>>>>>>>>Timeslot number	MP		Integer (0..14)		REL-5

>>>>>Channelisation code	MP		Enumerated ((16/1).. <i>(16/16)</i>)		REL-5
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)	HS-SICH always uses burst type 1.	REL-5
>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>1.28 Mcps					REL-5
>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>First Channelisation code	MP		Enumerated ((16/1).. <i>(16/16)</i>)		REL-5
>>>>>Second Channelisation code	MP		Enumerated ((16/1).. <i>(16/16)</i>)		REL-5
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)		REL-5
>>>>> Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target) The UE shall use the BLER target signalled in the first occurrence of the HS-SCCH Set Configuration.	REL-5
>>>>>HS-SICH configuration					REL-5
>>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>>Channelisation code	MP		Enumerated ((16/1).. <i>(16/16)</i>)		REL-5
>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)		REL-5
>>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5

>>>>>Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB.	REL-5
>>>>>PRX _{HS-SICH}	MP		Integer (-120..-58 by step of 1)	dBm. Desired power level for HS-SICH.	REL-5
>>>>>TPC step size	MP		Integer (1, 2, 3)	dB.	REL-5

Condition	Explanation
<i>UE</i>	This IE is mandatory present when the value of the IE "Midamble Allocation Mode" is "UE specific midamble" and not needed otherwise.

----- End of Changes -----

CHANGE REQUEST

25.331 CR 2391 # rev - # Current version: **5.9.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Alignment of Tabular Definition with ASN.1 for HS-SCCH Info		
Source:	# RAN WG2		
Work item code:	# HSDPA-L23	Date:	# 17 th August 2004
Category:	# F	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change: # For FDD the tabular definition of HS-SCCH Info refers to maxHSSCCHcodes whereas the ASN.1 definition refers to maxHSSCCHs-

```

HS-SCCH-Info ::=
    modeSpecificInfo
    CHOICE {
        fdd
            hS-SCCHChannelisationCodeInfo
            (1..maxHSSCCHs) OF
                dl-ScramblingCode
                HS-SCCH-Codes,
                SecondaryScramblingCode
        },
        tdd
            tdd384
                nack-ack-power-offset
                hs-SICH-PowerControl-Info
            Info-TDD384,
            hS-SCCH-SetConfiguration
            (1..maxHSSCCHs) OF
                HS-SCCH-TDD384
        },
        tdd128
            (1..maxHSSCCHs) OF
                HS-SCCH-TDD128
    }
    }

```

For TDD (1.28 and 3.84 Mcps) the tabular definition refers to maxHSSCCHs (consistent with ASN.1 definition), however the definition of maxHSSCCHs does not appear in the tabular definition“ Multiplicity values and type constraint values” -

maxHSDSCHTBIIndex-tdd384	INTEGER ::= 512
maxHSSCCHs	INTEGER ::= 4
maxInterSysMessages	INTEGER ::= 4
maxLoCHperRLC	INTEGER ::= 2

Summary of change: ⌘		The tabular definition of HS-SCCH Info is changed to align with the ASN.1 definition.
Isolated impact analysis:		Impacts HS-DSCH only
Consequences if not approved:	⌘	Correct implementation of HS-DSCH is not possible if the tabular definition is followed.

Clauses affected:	⌘	10.3.6.36a, 10.3.10									
Other specs affected:	⌘	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </tbody> </table>	Y	N		X		X		X	Other core specifications ⌘ Test specifications O&M Specifications
	Y	N									
		X									
	X										
	X										
Other comments:	⌘										

How to create CRs using this form:

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

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

----- First Change -----

10.3.6.36a HS-SCCH Info

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP				REL-5
>FDD					REL-5
>>DL Scrambling Code	MD		Secondary scrambling code 10.3.6.74	DL Scrambling code to be applied for HS-DSCH and HS-SCCH. Default is same scrambling code as for the primary CPICH.	REL-5
>>>HS-SCCH Channelisation Code Information	MP	1 to <maxHS-SCCHcode s>			REL-5
>>>>HS-SCCH Channelisation Code	MP		Integer (0..127)		REL-5
>TDD					REL-5
>>CHOICE <i>TDD option</i>	MP				REL-5
>>>3.84 Mcps					REL-5
>>>> Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB	REL-5
>>>>> HS-SICH Power Control Info	MP		HS-SICH Power Control Info 10.3.6.36b		REL-5
>>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)	HS-SCCH always uses burst type 1.	REL-5
>>>>>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>>>>>>Midamble Shift	CV-UE		Integer(0..15)		REL-5
>>>>>>>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target)	REL-5
>>>>>>>>>>>>HS-SICH configuration					REL-5
>>>>>>>>>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>>>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>>>>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble,	HS-SICH always uses burst	REL-5

			UE specific midamble)	type 1.	
>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>1.28 Mcps					REL-5
>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>First Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Second Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)		REL-5
>>>>> Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target)	REL-5
>>>>>HS-SICH configuration					REL-5
>>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)		REL-5
>>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>>Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB.	REL-5
>>>>>>PRX _{HS-SICH}	MP		Integer (-120..-58 by step of 1)	dBm. Desired power level for HS-SICH.	REL-5
>>>>>>TPC step size	MP		Integer (1, 2, 3)	dB.	REL-5

Condition	Explanation
UE	This IE is mandatory present when the value of the IE "Midamble Allocation Mode" is "UE specific midamble"

and not needed otherwise.

----- 2nd Change -----

10.3.10 Multiplicity values and type constraint values

The following table includes constants that are either used as multi bounds (name starting with "max") or as high or low value in a type specification (name starting with "lo" or "hi"). Constants are specified only for values appearing more than once in the RRC specification. In case a constant is related to one or more other constants, an expression is included in the "value" column instead of the actual value.

Constant	Explanation	Value	Version
CN information			
maxCNdomains	Maximum number of CN domains	4	
UTRAN mobility information			
maxRAT	Maximum number of Radio Access Technologies	maxOtherRAT + 1	
maxOtherRAT	Maximum number of other Radio Access Technologies	15	
maxURA	Maximum number of URAs in a cell	8	
maxInterSysMessages	Maximum number of Inter System Messages	4	
maxRABsetup	Maximum number of RABs to be established	16	
UE information			
maxtransactions	Maximum number of parallel RRC transactions in downlink	25	
maxPDCPalgoType	Maximum number of PDCP algorithm types	8	
maxDRACclasses	Maximum number of UE classes which would require different DRAC parameters	8	
maxFreqBandsFDD	Maximum number of frequency bands supported by the UE as defined in [21]	8	
maxFreqBandsTDD	Maximum number of frequency bands supported by the UE as defined in [22]	4	
maxFreqBandsGSM	Maximum number of frequency bands supported by the UE as defined in [45]	16	
maxPage1	Number of UEs paged in the Paging Type 1 message	8	
maxSystemCapability	Maximum number of system specific capabilities that can be requested in one message.	16	
MaxURNTIgroup	Maximum number of U-RNTI groups in one message	8	REL-5
RB information			
maxPredefConfig	Maximum number of predefined configurations	16	
maxRB	Maximum number of RBs	32	
maxSRBsetup	Maximum number of signalling RBs to be established	8	
maxRBperRAB	Maximum number of RBs per RAB	8	
maxRBallRABs	Maximum number of non signalling RBs	27	
maxRBMuxOptions	Maximum number of RB multiplexing options	8	
maxLoCHperRLC	Maximum number of logical channels per RLC entity	2	
MaxROHC-PacketSizes	Maximum number of packet sizes that are allowed to be produced by ROHC.	16	
MaxROHC-Profiles	Maximum number of profiles supported by ROHC on a given RB.	8	
maxRFC 3095-CID	Maximum number of available CID values per radio bearer	16384	REL-5
TrCH information			
MaxHPProcesses	Maximum number of H-ARQ processes	8	REL-5
MaxHSDSCH_TB_index	Maximum number of TB set size configurations for the HS-DSCH.	64 (FDD and 1.28 MCPS TDD); 512 (3.84 Mcps TDD)	REL-5

Constant	Explanation	Value	Version
maxMACdPDUSizes	Maximum number of MAC-d PDU sizes per queue permitted for MAC-hs	8	REL-5
maxTrCH	Maximum number of transport channels used in one direction (UL or DL)	32	
maxTrCHpreconf	Maximum number of preconfigured Transport channels, per direction	16	
maxCCTrCH	Maximum number of CCTrCHs	8	
maxQueueID	Maximum number of Mac-hs queues	8	REL-5
MaxTF	Maximum number of different transport formats that can be included in the Transport format set for one transport channel	32	
maxTF-CPCH	Maximum number of TFs in a CPCH set	16	
maxTFC	Maximum number of Transport Format Combinations	1024	
maxTFCsub	Maximum number of Transport Format Combinations Subset	1024	
maxTFCI-1-Combs	Maximum number of TFCI (field 1) combinations	512	
maxTFCI-2-Combs	Maximum number of TFCI (field 2) combinations	512	
maxCPCHsets	Maximum number of CPCH sets per cell	16	
maxSIBperMsg	Maximum number of complete system information blocks per SYSTEM INFORMATION message	16	
maxSIB	Maximum number of references to other system information blocks.	32	
maxSIB-FACH	Maximum number of references to system information blocks on the FACH	8	
PhyCH information			
maxHS_SCCHcodes	Maximum number of HSSCCH codes that can be assigned to a UE	4	REL-5
maxPCPCH-APsubCH	Maximum number of available sub-channels for AP signature on PCPCH	12	
maxPCPCH-CDsubCH	Maximum number of available sub-channels for CD signature on PCPCH	12	
maxPCPCH-APsig	Maximum number of available signatures for AP on PCPCH	16	
maxPCPCH-CDsig	Maximum number of available signatures for CD on PCPCH	16	
maxAC	Maximum number of access classes	16	
maxASC	Maximum number of access service classes	8	
maxASCmap	Maximum number of access class to access service classes mappings	7	
maxASCpersist	Maximum number of access service classes for which persistence scaling factors are specified	6	
maxPRACH	Maximum number of PRACHs in a cell	16	
MaxPRACH_FPACH	Maximum number of PRACH / FPACH pairs in a cell (1.28 Mcps TDD)	8	REL-4
maxFACHPCH	Maximum number of FACHs and PCHs mapped onto one secondary CCPCHs	8	
maxRL	Maximum number of radio links	8	
maxSCCPCH	Maximum number of secondary CCPCHs per cell	16	
maxDPDCH-UL	Maximum number of DPDCHs per cell	6	
maxDPCH-DLchan	Maximum number of channelisation codes used for DL DPCH	8	
maxPUSCH	Maximum number of PUSCHs	(8)	
maxPDSCH	Maximum number of PDSCHs	8	
maxPDSCHcodes	Maximum number of codes for PDSCH	16	
maxPDSCH-TFCIgroups	Maximum number of TFCI groups for PDSCH	256	
maxPDSCHcodeGroups	Maximum number of code groups for PDSCH	256	
maxPCPCHs	Maximum number of PCPCH channels in a CPCH Set	64	
maxPCPCH-SF	Maximum number of available SFs on PCPCH	7	
maxTS	Maximum number of timeslots used in one direction (UL or DL)	14 (3.84 Mcps TDD)	

Constant	Explanation	Value	Version
		6 (1.28 Mcps TDD)	REL-4
hiPUSCHidentities	Maximum number of PUSCH Identities	64	
hiPDSCHidentities	Maximum number of PDSCH Identities	64	
Measurement information			
maxTGPS	Maximum number of transmission gap pattern sequences	6	
maxAdditionalMeas	Maximum number of additional measurements for a given measurement identity	4	
maxMeasEvent	Maximum number of events that can be listed in measurement reporting criteria	8	
maxMeasParEvent	Maximum number of measurement parameters (e.g. thresholds) per event	2	
maxMeasIntervals	Maximum number of intervals that define the mapping function between the measurements for the cell quality Q of a cell and the representing quality value	1	
maxCellMeas	Maximum number of cells to measure	32	
maxReportedGSMCells	Maximum number of GSM cells to be reported	8	
maxFreq	Maximum number of frequencies to measure	8	
maxSat	Maximum number of satellites to measure	16	
maxSatAlmanacStorage	Maximum number of satellites for which to store GPS Almanac information	32	
HiRM	Maximum number that could be set as rate matching attribute for a transport channel	256	
Frequency information			
MaxFDDFreqList	Maximum number of FDD carrier frequencies to be stored in USIM	4	
MaxTDDFreqList	Maximum number of TDD carrier frequencies to be stored in USIM	4	
MaxFDDFreqCellList	Maximum number of neighbouring FDD cells to be stored in USIM	32	
MaxTDDFreqCellList	Maximum number of neighbouring TDD cells to be stored in USIM	32	
MaxGSMCellList	Maximum number of GSM cells to be stored in USIM	32	
Other information			
MaxGERANSI	Maximum number of GERAN SI blocks that can be provided as part of NACC information	8	REL-5
maxNumGSMFreqRanges	Maximum number of GSM Frequency Ranges to store	32	
MaxNumFDDFreqs	Maximum number of FDD centre frequencies to store	8	
MaxNumTDDFreqs	Maximum number of TDD centre frequencies to store	8	
maxNumCDMA200Freqs	Maximum number of CDMA2000 centre frequencies to store	8	

----- End of Changes -----

CHANGE REQUEST

25.331 CR 2392 # rev - # Current version: 6.2.0

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Alignment of Tabular Definition with ASN.1 for HS-SCCH Info		
Source:	# RAN WG2		
Work item code:	# HSDPA-L23	Date:	# 17 th August 2004
Category:	# A	Release:	# Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change: # For FDD the tabular definition of HS-SCCH Info refers to maxHSSCCHcodes whereas the ASN.1 definition refers to maxHSSCCHs -

```

HS-SCCH-Info ::=
modeSpecificInfo
fdd
    hS-SCCHChannelisationCodeInfo
    (1..maxHSSCCHs) OF
        dl-ScramblingCode
        HS-SCCH-Codes,
        SecondaryScramblingCode
    },
tdd
    tdd384
        nack-ack-power-offset
        hs-SICH-PowerControl-Info
Info-TDD384,
    hS-SCCH-SetConfiguration
    (1..maxHSSCCHs) OF
        HS-SCCH-TDD384
    },
    tdd128
    (1..maxHSSCCHs) OF
        HS-SCCH-TDD128
    }
}
    
```

For TDD (1.28 and 3.84 Mcps) the tabular definition refers to maxHSSCCHs (consistent with ASN.1 definition), however the definition of maxHSSCCHs does not appear in tabular definition " Multiplicity values and type constraint values" -

```

maxHSDSCHTBIIndex-tdd384    INTEGER ::= 512
maxHSSCCHs                  INTEGER ::= 4
maxInterSysMessages        INTEGER ::= 4
maxLoCHperRLC              INTEGER ::= 2
    
```

Summary of change: ⌘	The tabular definition of HS-SCCH Info is changed to align with the ASN.1 definition.										
	Isolated impact analysis: Impacts HS-DSCH only										
Consequences if not approved: ⌘	Correct implementation of HS-DSCH is not possible if the tabular definition is followed.										
Clauses affected: ⌘	10.3.6.36a, 10.3.10										
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N		X		X		X	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
	X										
	X										
	X										
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

----- First Change -----

10.3.6.36a HS-SCCH Info

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP				REL-5
>FDD					REL-5
>>DL Scrambling Code	MD		Secondary scrambling code 10.3.6.74	DL Scrambling code to be applied for HS-DSCH and HS-SCCH. Default is same scrambling code as for the primary CPICH.	REL-5
>>>HS-SCCH Channelisation Code Information	MP	1 to <maxHSS CCH codes>			REL-5
>>>>HS-SCCH Channelisation Code	MP		Integer (0..127)		REL-5
>TDD					REL-5
>>CHOICE <i>TDD option</i>	MP				REL-5
>>>3.84 Mcps					REL-5
>>>> Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB	REL-5
>>>>> HS-SICH Power Control Info	MP		HS-SICH Power Control Info 10.3.6.36b		REL-5
>>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)	HS-SCCH always uses burst type 1.	REL-5
>>>>>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>>>>>>Midamble Shift	CV-UE		Integer(0..15)		REL-5
>>>>>>>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target)	REL-5
>>>>>>>>>>>>>HS-SICH configuration					REL-5
>>>>>>>>>>>>>>>Timeslot number	MP		Integer (0..14)		REL-5
>>>>>>>>>>>>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>>>>>>>>>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble,	HS-SICH always uses burst	REL-5

			UE specific midamble)	type 1.	
>>>>>Midamble configuration	MP		Integer (4, 8, 16)		REL-5
>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>1.28 Mcps					REL-5
>>>>HS-SCCH Set Configuration	MP	1 to <maxHS-SCCHs>			REL-5
>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>First Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Second Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, Common midamble, UE specific midamble)		REL-5
>>>>> Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>BLER target	MP		Real (-3.15..0 by step of 0.05)	Signalled value is Log10(HS-SCCH BLER quality target)	REL-5
>>>>>HS-SICH configuration					REL-5
>>>>>>Timeslot number	MP		Integer (0..6)		REL-5
>>>>>>Channelisation code	MP		Enumerated ((16/1) ..(16/16))		REL-5
>>>>>>Midamble Allocation mode	MP		Enumerated (Default midamble, UE specific midamble)		REL-5
>>>>>>Midamble configuration	MP		Integer (2, 4, 6, 8, 10, 12, 14, 16)		REL-5
>>>>>>Midamble Shift	CV-UE		Integer (0..15)		REL-5
>>>>>>Ack-Nack Power Offset	MP		Integer (-7..8 by step of 1)	dB.	REL-5
>>>>>>PRX _{HS-SICH}	MP		Integer (-120..-58 by step of 1)	dBm. Desired power level for HS-SICH.	REL-5
>>>>>>TPC step size	MP		Integer (1, 2, 3)	dB.	REL-5

Condition	Explanation
UE	This IE is mandatory present when the value of the IE "Midamble Allocation Mode" is "UE specific midamble"

and not needed otherwise.

----- 2nd Change -----

Constant	Explanation	Value	Version
CN information			
maxCNdomains	Maximum number of CN domains	4	
UTRAN mobility information			
maxRAT	Maximum number of Radio Access Technologies	maxOtherRAT + 1	
maxOtherRAT	Maximum number of other Radio Access Technologies	15	
maxURA	Maximum number of URAs in a cell	8	
maxInterSysMessages	Maximum number of Inter System Messages	4	
maxRABsetup	Maximum number of RABs to be established	16	
UE information			
maxtransactions	Maximum number of parallel RRC transactions in downlink	25	
maxPDCPalgoType	Maximum number of PDCP algorithm types	8	
maxDRACclasses	Maximum number of UE classes which would require different DRAC parameters	8	
maxFreqBandsFDD	Maximum number of frequency bands supported by the UE as defined in [21]	8	
maxFreqBandsTDD	Maximum number of frequency bands supported by the UE as defined in [22]	4	
maxFreqBandsGSM	Maximum number of frequency bands supported by the UE as defined in [45]	16	
maxPage1	Number of UEs paged in the Paging Type 1 message	8	
maxSystemCapability	Maximum number of system specific capabilities that can be requested in one message.	16	
MaxURNTIgroup	Maximum number of U-RNTI groups in one message	8	REL-5
RB information			
maxPredefConfig	Maximum number of predefined configurations	16	
maxRB	Maximum number of RBs	32	
maxSRBsetup	Maximum number of signalling RBs to be established	8	
maxRBperRAB	Maximum number of RBs per RAB	8	
maxRBallRABs	Maximum number of non signalling RBs	27	
maxRBMuxOptions	Maximum number of RB multiplexing options	8	
maxLoCHperRLC	Maximum number of logical channels per RLC entity	2	
MaxROHC-PacketSizes	Maximum number of packet sizes that are allowed to be produced by ROHC.	16	
MaxROHC-Profiles	Maximum number of profiles supported by ROHC on a given RB.	8	
maxRFC 3095-CID	Maximum number of available CID values per radio bearer	16384	REL-5
TrCH information			
MaxHProcesses	Maximum number of H-ARQ processes	8	REL-5
MaxHSDSCH_TB_index	Maximum number of TB set size configurations for the HS-DSCH.	64 (FDD and 1.28 MCPS TDD); 512 (3.84 Mcps TDD)	REL-5
maxMACdPDUSizes	Maximum number of MAC-d PDU sizes per queue permitted for MAC-hs	8	REL-5
maxTrCH	Maximum number of transport channels used in one direction (UL or DL)	32	
maxTrCHpreconf	Maximum number of preconfigured Transport channels, per direction	16	
maxCCTrCH	Maximum number of CCTrCHs	8	
maxQueueID	Maximum number of Mac-hs queues	8	REL-5
MaxTF	Maximum number of different transport formats that can be included in the Transport format set for	32	

Constant	Explanation	Value	Version
	one transport channel		
maxTF-CPCH	Maximum number of TFs in a CPCH set	16	
maxTFC	Maximum number of Transport Format Combinations	1024	
maxTFCsub	Maximum number of Transport Format Combinations Subset	1024	
maxTFCI-1-Combs	Maximum number of TFCI (field 1) combinations	512	
maxTFCI-2-Combs	Maximum number of TFCI (field 2) combinations	512	
maxCPCHsets	Maximum number of CPCH sets per cell	16	
maxSIBperMsg	Maximum number of complete system information blocks per SYSTEM INFORMATION message	16	
maxSIB	Maximum number of references to other system information blocks.	32	
maxSIB-FACH	Maximum number of references to system information blocks on the FACH	8	
PhyCH information			
maxHSSCCHcodes	Maximum number of HSSCCH codes that can be assigned to a UE	4	REL-5
maxPCPCH-APsubCH	Maximum number of available sub-channels for AP signature on PCPCH	12	
maxPCPCH-CDsubCH	Maximum number of available sub-channels for CD signature on PCPCH	12	
maxPCPCH-APsig	Maximum number of available signatures for AP on PCPCH	16	
maxPCPCH-CDsig	Maximum number of available signatures for CD on PCPCH	16	
maxAC	Maximum number of access classes	16	
maxASC	Maximum number of access service classes	8	
maxASCmap	Maximum number of access class to access service classes mappings	7	
maxASCpersist	Maximum number of access service classes for which persistence scaling factors are specified	6	
maxPRACH	Maximum number of PRACHs in a cell	16	
MaxPRACH_FPACH	Maximum number of PRACH / FPACH pairs in a cell (1.28 Mcps TDD)	8	REL-4
maxFACHPCH	Maximum number of FACHs and PCHs mapped onto one secondary CCPCHs	8	
maxRL	Maximum number of radio links	8	
maxSCCPCH	Maximum number of secondary CCPCHs per cell	16	
maxDPDCH-UL	Maximum number of DPDCHs per cell	6	
maxDPCH-DLchan	Maximum number of channelisation codes used for DL DPCH	8	
maxPUSCH	Maximum number of PUSCHs	(8)	
maxPDSCH	Maximum number of PDSCHs	8	
maxPDSCHcodes	Maximum number of codes for PDSCH	16	
maxPDSCH-TFCIgroups	Maximum number of TFCI groups for PDSCH	256	
maxPDSCHcodeGroups	Maximum number of code groups for PDSCH	256	
maxPCPCHs	Maximum number of PCPCH channels in a CPCH Set	64	
maxPCPCH-SF	Maximum number of available SFs on PCPCH	7	
maxTS	Maximum number of timeslots used in one direction (UL or DL)	14 (3.84 Mcps TDD) 6 (1.28 Mcps TDD)	REL-4
hiPUSCHidentities	Maximum number of PUSCH Identities	64	
hiPDSCHidentities	Maximum number of PDSCH Identities	64	
Measurement information			
maxTGPS	Maximum number of transmission gap pattern sequences	6	
maxAdditionalMeas	Maximum number of additional measurements for a given measurement identity	4	
maxMeasEvent	Maximum number of events that can be listed in measurement reporting criteria	8	

Constant	Explanation	Value	Version
maxMeasParEvent	Maximum number of measurement parameters (e.g. thresholds) per event	2	
maxMeasIntervals	Maximum number of intervals that define the mapping function between the measurements for the cell quality Q of a cell and the representing quality value	1	
maxCellMeas	Maximum number of cells to measure	32	
maxReportedGSMCells	Maximum number of GSM cells to be reported	8	
maxFreq	Maximum number of frequencies to measure	8	
maxSat	Maximum number of satellites to measure	16	
maxSatAlmanacStorage	Maximum number of satellites for which to store GPS Almanac information	32	
HiRM	Maximum number that could be set as rate matching attribute for a transport channel	256	
Frequency information			
MaxFDDFreqList	Maximum number of FDD carrier frequencies to be stored in USIM	4	
MaxTDDFreqList	Maximum number of TDD carrier frequencies to be stored in USIM	4	
MaxFDDFreqCellList	Maximum number of neighbouring FDD cells to be stored in USIM	32	
MaxTDDFreqCellList	Maximum number of neighbouring TDD cells to be stored in USIM	32	
MaxGSMCellList	Maximum number of GSM cells to be stored in USIM	32	
Other information			
MaxGERANSI	Maximum number of GERAN SI blocks that can be provided as part of NACC information	8	REL-5
maxNumGSMFreqRanges	Maximum number of GSM Frequency Ranges to store	32	
MaxNumFDDFreqs	Maximum number of FDD centre frequencies to store	8	
MaxNumTDDFreqs	Maximum number of TDD centre frequencies to store	8	
maxNumCDMA200Freqs	Maximum number of CDMA2000 centre frequencies to store	8	
maxGSMTargetCells	Maximum number of GSM target cells	32	REL-6

----- End of Changes -----

CHANGE REQUEST

⌘ **25.331 CR 2393** ⌘ rev **-** ⌘ Current version: **5.9.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correction to HS-DSCH reception conditions		
Source:	⌘ RAN WG2		
Work item code:	⌘ HSDPA-L23	Date:	⌘ August 2004
Category:	⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Release:	⌘ Rel-5 Use <u>one</u> of the following releases: Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change: ⌘ 1) The HS_DSCH_RECEPTION variable is set to TRUE while checking the HS-DSCH configuration. However this checking does not include checking for a stored IE "HS-SCCH info" and except for checking whether the IE "Serving HS-DSCH RL indicator" is set to TRUE for one of the RLs in the active set; This behaviour is considered erroneous since it is impossible to start HS-SCCH reception when there is e.g. no HS-DSCH serving cell indicated.

2) The current specification does not take into account whether or not a RB is mapped to HS-DSCH. It does not seem to make sense to start HS-SCCH reception when there is no RB mapped to HS-DSCH.

3) The HS_DSCH_RECEPTION variable can only be set to TRUE when the UE receives the IE "DL HS-PDSCH information"; Thus e.g. when the UE receives the "HARQ info" IE only after receiving the "HS-PDSCH info", or the UE is informed about a "HS-DSCH serving cell" only after having received the IE "DL HS-PDSCH information", the UE will incorrectly not consider itself to have a complete HSDSCH configuration.

4) The HS_DSCH_RECEPTION variable is always (and only) set to "FALSE" when the UE receives a message in which the IE "DL HS-PDSCH information" is not present. This behaviour is considered incorrect: with this behaviour e.g. a reconfiguration message changing e.g. an RLC timer value for an SRB, or adding or removing a RB, will result in disabling HS-DSCH reception if the IE "DL HS-PDSCH information" is not included.

5) For several HS-DSCH related IE's it is unclear when the UE can forget about there contents.

6) Several smaller issues have been detected (see R2-04xxxx for more details).

Summary of change: ⌘

- 1) The check which allows the UE to set the HS_DSCH_RECEPTION variable has been extended. Now the variable should only be set to 'TRUE' when HS-SCCH & HS-DSCH reception is possible and usefull.
- 2) The check which allows the UE to set the HS_DSCH_RECEPTION variable has been extended. Now the variable should only be set to 'TRUE' when HS-SCCH & HS-DSCH reception is possible and usefull.
- 3) The variable HS_DSCH_RECEPTION will be set to 'TRUE' whenever the UE has a complete HS-DSCH related configuration.
- 4) The variable HS_DSCH_RECEPTION will be set to 'FALSE' whenever the UE no longer has a complete HS-DSCH related configuration.
- 5) The lifetime of all HS-DSCH related IE's has been clarified.
- 6) Several smaller corrections have been made like:
 - allow change of H_RNTI while being in CELL_DCH state (8.6.3.1b);
 - allow removal of a serving HS-DSCH RL (8.6.6.4);
 - not require HARQ related memory reservations to be made unless the HS_DSCH_RECEPTION variable is set to "TRUE" (8.6.5.6b);
 - allow change of DL HS PDSCH Information while in CELL_DCH state (8.6.6.33/8.6.6.34).

Rev 0:

The following changes/additions are made in Rev0 of this CR (all highlighted in yellow in the CR):

- Section 8.5.25: the requirement on having a serving HS-DSCH RL is only applicable for FDD;
- Section 8.5.25: a note is added to explain the main options the UTRAN has to enable/disable HS-DSCH reception;
- Section 8.6.6.4: Text, which was proposed to be deleted regarding the setting of the serving HS-DSCH radio link when entering CELL_DCH state, is kept.
- The changes that were proposed by R2-041434/R2-041435 on section 8.5.21 and 8.6.5.5.a are included in this CR.

Consequences if not approved: ⌘ The listed unclarities/inconsistencies will remain in the specification.

Clauses affected: ⌘ 8.2.2.3; 8.2.2.7; 8.3.1.2; 8.3.4.3; 8.3.7.3; 8.3.11.1; 8.5.21; 8.5.25 (new); 8.6.3.1b; 8.6.4.6; 8.6.4.8; 8.6.5.5a; 8.6.5.6b; 8.6.6.4; 8.6.6.11; 8.6.6.32; 8.6.6.33; 8.6.6.34; 13.4.8oo

Other specs affected: ⌘

Y	N

Other core specifications ⌘

Test specifications ⌘

O&M Specifications ⌘

Other comments: ⌘

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

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

8.2.2.3 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:

- 1> be able to receive any of the following messages:
 - 2> RADIO BEARER SETUP message; or
 - 2> RADIO BEARER RECONFIGURATION message; or
 - 2> RADIO BEARER RELEASE message; or
 - 2> TRANSPORT CHANNEL RECONFIGURATION message; or
 - 2> PHYSICAL CHANNEL RECONFIGURATION message;
- 1> be able to perform a hard handover and apply physical layer synchronisation procedure A as specified in [29], even if no prior UE measurements have been performed on the target cell and/or frequency.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

- 1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the reconfiguration message and the reconfiguration requests a timing re-initialised hard handover (see subclause 8.3.5.1), the UE may:
 - 2> abort the pending CM activation;
 - 2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.
- 1> otherwise:
 - 2> set the CM_PATTERN_ACTIVATION_ABORTED to FALSE.

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> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:
 - 2> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).
- 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 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.

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

- ~~1> stop any HS_DSCH reception procedures;~~
- 1> clear any stored [IE "Downlink HS-PDSCH information" configuration](#);
- ~~1> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~
- ~~1> release all HARQ resources;~~
- ~~1> remove any H_RNTI stored;~~
- ~~1> clear the variable H_RNTI;~~
- 1> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25](#). ~~set the variable HS_DSCH_RECEPTION to FALSE.~~

NOTE: ~~If configured for HS_DSCH, the UE will have still stored the IEs "Added or Reconfigured MAC d flow" and "RB mapping Info".~~

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.

// partly ommitted //

8.2.2.7 Physical channel failure

If the received message caused the UE to be in CELL_DCH state and the UE according to subclause 8.5.4 failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> if HS-DSCH is configured:

- ~~2> stop any HS-DSCH reception procedures;~~
- ~~2> clear any stored HS-PDSCH configuration;~~
- ~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~
- ~~2> release all HARQ resources;~~
- ~~2> remove any H-RNTI stored;~~
- ~~2> clear the variable H-RNTI;~~
- 2> no longer consider any radio link as the serving HS-DSCH radio link;
- 2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25. ~~set the variable HS_DSCH_RECEPTION to FALSE.~~

1> if the CM_PATTERN_ACTIVATION_ABORTED flag is not set to TRUE:

2> revert to the configuration prior to the reception of the message (old configuration);

2> if the UE was in Cell DCH state prior to the reconfiguration:

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

3> after the establishment of the uplink physical channel, send DPCCH and no DPDCH according to [26] during the number of frames indicated in the IE "PC preamble" in the variable LATEST_CONFIGURED_SRB_DELAY_AND_PC_PREAMBLE; and

3> then not send any data on signalling radio bearers RB0 to RB4 during the number of frames indicated in the IE "SRB delay" in the variable LATEST_CONFIGURED_SRB_DELAY_AND_PC_PREAMBLE.

1> if the CM_PATTERN_ACTIVATION_ABORTED flag is set to TRUE or if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

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

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

// partly ommitted //

8.3.1.2 Initiation

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

1> Uplink data transmission:

- 2> if the UE is in URA_PCH or CELL_PCH state; and
- 2> if the UE has uplink RLC data PDU or uplink RLC control PDU on RB1 or upwards to transmit:
 - 3> perform cell update using the cause "uplink data transmission".

1> Paging response:

- 2> if the criteria for performing cell update with the cause specified above in the current subclause are not met; and
- 2> if the UE in URA_PCH or CELL_PCH state, receives a PAGING TYPE 1 message fulfilling the conditions for initiating a cell update procedure specified in subclause 8.1.2.3:
 - 3> perform cell update using the cause "paging response".

1> Radio link failure:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
 - 3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6; or
 - 3> if the transmission of the UE CAPABILITY INFORMATION message fails as specified in subclause 8.1.6.6:
 - 4> perform cell update using the cause "radio link failure".

1> Re-entering service area:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE is in CELL_FACH or CELL_PCH state; and
- 2> if the UE has been out of service area and re-enters service area before T307 or T317 expires:
 - 3> perform cell update using the cause "re-entering service area".

1> RLC unrecoverable error:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE detects RLC unrecoverable error [16] in an AM RLC entity:
 - 3> perform cell update using the cause "RLC unrecoverable error".

1> Cell reselection:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
 - 3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or
 - 3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:
 - 4> perform cell update using the cause "cell reselection".

1> Periodical cell update:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE is in CELL_FACH or CELL_PCH state; and

- 2> if the timer T305 expires; and
- 2> if the criteria for "in service area" as specified in subclause 8.5.5.2 are fulfilled; and
- 2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":
 - 3> perform cell update using the cause "periodical cell update".

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

- 2> if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or
- 2> if the list of URA identities in system information block type 2 is empty; or
- 2> if the system information block type 2 can not be found:
 - 3> perform URA update using the cause "change of URA".

1> Periodic URA update:

- 2> if the criteria for performing URA update with the causes as specified above in the current subclause are not met; and
- 2> if the timer T305 expires while the UE is in the service area; and
- 2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":
 - 3> perform URA update using the cause "periodic URA update".

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

1> stop timer T305;

1> if the UE is in CELL_DCH state:

- 2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;
- 2> if the stored values of the timer T314 and timer T315 are both equal to zero; or
- 2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - 3> release all its radio resources;
 - 3> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - 3> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 3> clear the variable ESTABLISHED_RABS;
 - 3> enter idle mode;
 - 3> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2;
 - 3> and the procedure ends.

- 2> if the stored value of the timer T314 is equal to zero:
 - 3> release all radio bearers, associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";
 - 3> in the variable RB_TIMER_INDICATOR set the IE "T314 expired" to TRUE.
- 2> if the stored value of the timer T315 is equal to zero:
 - 3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";
 - 3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.
- 2> if the stored value of the timer T314 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":
 - 4> start timer T314.
 - 3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":
 - 4> start timer T314.
- 2> if the stored value of the timer T315 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - 4> start timer T315.
- 2> for the released radio bearer(s):
 - 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
 - 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;
 - 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
- 2> select a suitable UTRA cell on the current frequency according to [4];
- 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> set the variable CELL_UPDATE_STARTED to TRUE;
- 1> if HS-DSCH is configured:
 - ~~2> stop any HS-DSCH reception procedures;~~
 - 2> clear any stored [IE "Downlink HS-PDSCH information" configuration](#);
 - ~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~
 - ~~2> release all HARQ resources;~~
 - ~~2> remove any H-RNTI stored;~~
 - ~~2> clear the variable H-RNTI;~~

- 2> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25](#).~~set the variable HS_DSCH_RECEPTION to FALSE.~~
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to subclause 8.5.17;
 - 2> select Secondary CCPCH according to subclause 8.5.19;
 - 2> use the transport format set given in system information as specified in subclause 8.6.5.1.
 - 1> if the UE performs cell re-selection:
 - 2> clear the variable C_RNTI; and
 - 2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.
 - 1> set CFN in relation to SFN of current cell according to subclause 8.5.15;
 - 1> in case of a cell update procedure:
 - 2> set the contents of the CELL UPDATE message according to subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH.
 - 1> in case of a URA update procedure:
 - 2> set the contents of the URA UPDATE message according to subclause 8.3.1.3;
 - 2> submit the URA UPDATE message for transmission on the uplink CCCH.
 - 1> set counter V302 to 1;
 - 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

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 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 shall:

- 1> first add the RLs indicated in the IE "Radio Link Addition Information";
- 1> remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure B as specified in [29];
- 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 radio link currently considered to be the serving HS-DSCH radio link is indicated in the IE "Radio Link Removal Information":](#)

2> no longer consider any radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronisation B, as specified in [29];

1> the procedure ends on the UE side.

8.3.7.3 Reception of a HANDOVER FROM UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER FROM UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target cell.

The UE shall:

1> if HS-DSCH is configured for UTRA:

~~2> stop any HS_DSCH reception procedures;~~

~~2> act as if the IE "MAC_hs_reset_indicator" is received and set to TRUE;~~

~~2> release all HARQ resources;~~

~~2> remove any H_RNTI stored;~~

~~2> clear the variable H_RNTI;~~

2> no longer consider any radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25. ~~set the variable HS_DSCH_RECEPTION to FALSE.~~

1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the HANDOVER FROM UTRAN COMMAND the UE may:

2> abort the pending CM activation;

2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.

// partly ommitted //

8.3.11.3 Reception of an CELL CHANGE ORDER FROM UTRAN message by the UE

The UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message and perform a cell change order to another RAT, even if no prior UE measurements have been performed on the target cell.

If the variable ESTABLISHED_SIGNALLING_CONNECTIONS does not include the CN domain identity "PS domain", or if the variable ESTABLISHED_SIGNALLING_CONNECTIONS includes the CN domain identity "CS domain":

1> the UE shall act as if the message was never received.

The UE shall:

- 1> if HS-DSCH is configured for UTRA:
 - ~~2> stop any HS-DSCH reception procedures;~~
 - ~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~
 - ~~2> release all HARQ resources;~~
 - ~~2> remove any H-RNTI stored;~~
 - ~~2> clear the variable H-RNTI;~~
 - 2> no longer consider any radio link as the serving HS-DSCH radio link;
 - 2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.~~set the variable HS_DSCH_RECEPTION to FALSE.~~
- 1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the CELL CHANGE ORDER FROM UTRAN message the UE may:
 - 2> abort the pending CM activation;
 - 2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.

// partly ommitted //

8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set" and/or the IE "Added or reconfigured MAC-d flow", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:

- 4> select this multiplexing option; else
- 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:
 - 2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

- 1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration:
 - 2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and
 - 2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:
 - 3> re-establish the transmitting side of the corresponding RLC entity.
 - 2> else:
 - 3> re-establish the corresponding RLC entity.
 - 2> configure the corresponding RLC entity with the new uplink RLC size;
 - 2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and
 - 2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:
 - 3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":
 - 4> if the information causing the RLC re-establishment was included in system information:

- 5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

- 4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

- 5> if the whole RLC entity was re-established:

- 6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

- 5> if only the transmitting side of the RLC entity was re-established:

- 6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

- 4> if the RLC re-establishment is caused by a reconfiguration message:

- 5> if the whole RLC entity was re-established:

- 6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

- 5> if only the transmitting side of the RLC entity was re-established:

- 6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

- 1> if that RB is using UM:

- 2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

- 1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

- 1> configure the MAC with the logical channel priorities according to selected multiplexing option;

- 1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

- 1> if there is no multiplexing option applicable for the transport channels to be used:

- 2> set the variable INVALID_CONFIGURATION to TRUE.

- 1> if there is more than one multiplexing option applicable for the transport channels to be used:

- 2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

- 1> move to idle mode;
- 1> release (locally) the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and the established radio access bearers (as stored in the variable ESTABLISHED_RABS) and indicate this to upper layers;
- 1> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2.

8.5.25 Actions related to HS_DSCH_RECEPTION variable (NEW)

The variable HS_DSCH_RECEPTION shall be set to "TRUE" only when all the following conditions are met:

- 1> the UE is in CELL_DCH state;
- 1> the variable H_RNTI is set;
- 1> the UE has a stored IE "HS-SCCH info";
- 1> for FDD:
 - 2> one of the radio links in the active set is configured as the serving HS-DSCH radio link;
 - 2> the UE has stored the following IEs:
 - IE "Measurement Feedback Info";
 - IE "Uplink DPCH Power Control Info" including stored Δ_{ACK} , Δ_{NACK} and Ack-NACK Repetition factor;
 - IE "HARQ info";
 - 1>for 3.84 Mcps TDD, the UE has stored the following IE:
 - IE "HS-PDSCH Timeslot Configuration";
 - 1> for 1.28 Mcps TDD, the UE has stored the following IE:
 - IE "HS-PDSCH Midamble Configuration";
 - 1> there is at least one RB mapped to HS-DSCH;
 - 1> at least for one of the RB's mapped to HS-DSCH, there is at least one MAC-hs queue (including the IE "MAC-d PDU size Info") configured for the concerning MAC-d flow;
 - 1> one of the radio links in the active set is configured as the serving HS_DSCH radio link.

Note: To enable or disable HS-DSCH reception, the UTRAN has the possibility to add/remove the concerning HS-DSCH related RB mapping options, add/remove the concerning MAC-d flows or, for FDD, add/remove the serving HS-DSCH radio link.

If any of the above conditions is not met and the variable HS_DSCH_RECEPTION is set to TRUE, the UE shall:

- 1> set the variable HS_DSCH_RECEPTION to FALSE;
- 1> stop any HS_SCCH reception procedures;
- 1> stop any HS-DSCH reception procedures;
- 1> clear the variable H_RNTI and remove any stored H-RNTI;
- 1> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;
- 1> release all HARQ resources;
- 1> no long consider any radio link to be the HS-DSCH serving radio link.

NOTE: If configured for HS-DSCH and not explicitly indicated as being cleared, the UE will have still stored the IEs "HARQ info", "Added or Reconfigured MAC-d flow", "RB mapping Info" and "Downlink HS-PDSCH information".

Whenever the variable HS_DSCH_RECEPTION is set to TRUE, the UE shall:

1> perform HS_SCCH reception procedures according to the stored HS-SCCH configuration as stated in:

2> subclause 8.6.6.33 for the IE "HS-SCCH Info".

1> perform HS-DSCH reception procedures according to the stored HS-PDSCH configuration as stated in:

2> subclause 8.6.3.1b for the IE "H-RNTI";

2> subclause 8.6.5.6b for the IE "HARQ info";

2> subclause 8.6.6.34 for the IE "Measurement Feedback Info".

Whenever the variable HS_DSCH_RECEPTION is set to FALSE, the UE shall:

1> not perform HS_SCCH reception procedures;

1> not perform HS-DSCH reception procedures;

8.6.3.1b H-RNTI

If the IE "New H-RNTI" is included and the UE will be in CELL_DCH state after completion of this procedure, the UE shall:

~~1> if the IE "Downlink HS-PDSCH Information" is also included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message:~~

~~1>~~ store the value in the variable H_RNTI;

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

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

1> use the value of the variable H_RNTI as UE identity in the HS-SCCH reception procedure in the physical layer.

8.6.4.6 RB information to release

If the IE "RB information to release" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

1> if the IE "RB identity" is set to a value less than 4:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if the IE "RB identity" refers to a signalling radio bearer:

2> release the RLC entity for the signalling radio bearer;

2> delete the information about the signalling radio bearer from the variable ESTABLISHED_RABS.

1> if the IE "RB identity" refers to a radio bearer:

2> release the PDCP and RLC entities for that radio bearer;

2> indicate release of the RAB subflow associated with the radio bearer to upper layers;

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

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

- 3> indicate release of the radio access bearer to upper layers providing the "CN domain identity" together with the "RAB identity" stored in the variable ESTABLISHED_RABS;
- 3> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.

The UE shall:

- 1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

- 1> for each multiplexing option of the RB:
 - 2> if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH or DSCH or HS-DSCH is included:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the uplink logical channel transferring data PDUs has more than one element not equal to zero:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
 - 2> if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> for each logical channel in that multiplexing option:
 - 3> if the value of the IE "RLC size list" is set to "Explicit list":
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - 4> if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or

- 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 3> if the value of the IE "RLC size list" is set to "All":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 3> if the value of the IE "RLC size list" is set to "Configured":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the "RB mapping info" is considered as valid according to the rules above:
 - 2> delete all previously stored multiplexing options for that radio bearer;
 - 2> store each new multiplexing option for that radio bearer;
 - 2> perform the actions as specified in subclause 8.5.21;
 - 2> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)
- 1> if the IE "Uplink transport channel type" is set to the value "RACH":
 - 2> in FDD:
 - 3> refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in System Information Block 5 or System Information Block 6.
 - 2> in TDD:
 - 3> use the first Transport Format of the PRACH of the IE "PRACH system information list" at the position equal to the value in the IE "RLC size index".

In case IE "RLC info" includes IE "Downlink RLC mode" ("DL RLC logical channel info" is mandatory present) but IE "Number of downlink RLC logical channels" is absent in the corresponding IE "RB mapping info", the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

If ciphering is applied, UTRAN should not map Transparent Mode RBs of different CN domains on the same transport channel and it should not map transparent mode SRBs and RBs onto the same transport channel. In such cases the UE behaviour is not specified.

8.6.5.5a Added or reconfigured MAC-d flow

If the IE "Added or reconfigured MAC-d flow" is included, the UE shall:

- 1> if a MAC-hs queue (identified by the IE "MAC-hs queue Id") is included in both the IE "MAC-hs queue to add or reconfigure list" and the IE "MAC-hs queue to delete list":
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> for each MAC-hs queue included in the IE "MAC-hs queue to add or reconfigure" list:
 - 2> if the UE has previously stored a mapping between this MAC-hs queue and a MAC-d flow:
 - 3> delete the old mapping.
 - 2> map the MAC-d flow indicated in the current message to this MAC-hs queue;
 - 2> set the release timer for each of the MAC-hs queues in the MAC-hs entity to the value in the corresponding IE "T1";
 - 2> set the MAC-hs receiver window size for each of the MAC-hs queues in the MAC-hs entity to the value in the corresponding IE "MAC-hs window size"; and
 - 2> configure MAC-hs with the mapping between MAC-d PDU sizes index and allowed MAC-d PDU sizes as follows:
 - 3> if a MAC-d PDU size has been stored for a MAC-d PDU size index for the corresponding MAC-hs queue and no mapping is provided in the current message for this MAC-d PDU index:
 - 4> continue to use this mapping.
 - 3> if a MAC-d PDU size has been stored for a MAC-d PDU size index for the corresponding MAC-hs queue and a mapping is provided in the current message for this MAC-d PDU index:
 - 4> configure the MAC-hs entity with the mapping indicated in the current message.
- 1> for each MAC-hs queue included in the IE "MAC-hs queue to delete" list:
 - 2> delete any information about the MAC-hs queue identified by the IE "MAC-hs queue Id".

1> if the IE "Added or reconfigured MAC-d flow" is considered valid according to the rules above:

2> perform the actions as specified in subclause 8.5.21.

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

8.6.5.6b HARQ Info

If the IE "HARQ Info" is included, the UE shall:

1> [store the received configuration;](#)

1> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

[When the variable HS_DSCH_RECEPTION is set to TRUE the UE shall:](#)

1> configure the MAC-hs entity with the number of HARQ processes indicated in IE "Number of Processes";

1> assign to each of these HARQ processes IDs going from 0 to "Number of Processes" – 1;

1> if the IE "Memory Partitioning" is set to 'Implicit':

2> partition the soft memory buffer in the MAC-hs entity equally among the processes configured above. In the event that the division of the soft memory buffer results in a non-Integer value the partition memory size is rounded down to the nearest Integer value.

1> if the IE "Memory Partitioning" is set to 'Explicit':

2> if the UE capability "Total number of soft channel bits in HS-DSCH", as specified in [35], is exceeded with this configuration:

3> set the variable INVALID_CONFIGURATION to TRUE.

2> else:

3> partition the soft memory buffer in the MAC-hs entity according to the IE "Process memory size" assuming that the order in the list follows the order in the HARQ process IDs.

8.6.6.4 Downlink information for each radio link

If the IE "Downlink information for each radio link" is included in a received message, the UE shall:

1> if the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message:

2> if the IE "SCCPCH Information for FACH" is included; and

2> if the UE is in FDD mode and is not capable of simultaneous reception of DPCH and Secondary CCPCH:

3> set the variable UNSUPPORTED_CONFIGURATION to TRUE;

2> if the UE is in FDD mode and is capable of simultaneous reception of DPCH and SCCPCH:

3> start to receive the indicated Secondary CCPCH.

2> if the UE is in TDD mode and shared transport channels are assigned to the UE:

3> start to receive the indicated Secondary CCPCH.

2> if the UE is in TDD mode and no shared transport channels are assigned to the UE:

3> set the variable UNSUPPORTED_CONFIGURATION to TRUE.

2> if the IE "Serving HS-DSCH radio link indicator" is set to "TRUE":

3> consider this radio link as the serving HS-DSCH radio link;

~~3> if the serving HS-DSCH radio link was another radio link than this radio link prior to reception of the message and the IE "H-RNTI" is not included;~~

~~4> set the variable INVALID_CONFIGURATION to TRUE.~~

2> act on the other IEs contained in the IE "Downlink information for each radio link" as specified in subclause 8.6 applied on this radio link.

1> in addition, if the message was received in CELL_DCH state and the UE remains in CELL_DCH state according to subclause 8.6.3.3 applied on the received message:

2> if the IE "Serving HS-DSCH radio link indicator" is set to 'TRUE':

3> consider this radio link as the serving HS-DSCH radio link;

3> if the serving HS-DSCH radio link was another radio link than this radio link prior to reception of the message and the IE "H-RNTI" is not included:

4> clear the variable H_RNTI~~set the variable INVALID_CONFIGURATION to TRUE.~~

2> if the IE "Serving HS-DSCH radio link indicator" is set to 'FALSE' and this radio link was considered the serving HS-DSCH radio link prior to reception of this message:

3> no longer consider this radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

2> for each optional IE part of the IE "Downlink information for each radio link" that is not present:

3> do not change its current downlink physical channel configuration corresponding to the IE, which is absent, if not stated otherwise elsewhere.

NOTE: The Release '99 RADIO BEARER RECONFIGURATION message always includes at least one IE "Downlink information for each radio link" containing the mandatory IEs, even if UTRAN does not require the reconfiguration of any radio link.

1> if the UE would enter either the CELL_FACH, CELL_PCH or URA_PCH state according to subclause 8.6.3.3 applied on the received message:

2> if the received message is CELL UPDATE CONFIRM:

3> ignore the IE "Downlink information for each radio link".

2> if the received message is any other message than CELL UPDATE CONFIRM; and

2> if IEs other than the IE "Primary CPICH info" (for FDD) or the IE "Primary CCPCH info" (for TDD) are included in the IE "Downlink information for each radio link":

3> ignore these IEs.

2> act on the other IEs contained in the IE "Downlink information for each radio link" as specified in subclause 8.6 applied on this radio link.

8.6.6.11 Uplink DPCH power control info

The UE shall:

1> in FDD:

2> if the IE "Uplink DPCH power control info" is included:

3> if a synchronisation procedure A is performed according to [29]:

4> calculate and set an initial uplink transmission power;

4> start inner loop power control as specified in subclause 8.5.3;

- 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
- 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.
- 1> in 3.84 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.
 - 2> else:
 - 3> use the current uplink transmission power.
- 1> in 1.28 Mcps TDD:
 - 2> if the CHOICE UL OL PC info is set to 'Broadcast UL OL PC info':
 - 3> set the variable INVALID_CONFIGURATION to true.
 - 2> if the IE "Uplink DPCH power control info" is included in the UPLINK PHYSICAL CHANNEL CONTROL message:
 - 3> use the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.
 - 3> if the IE " UL target SIR " is included:
 - 4> use this value for parameter $PRX_{DPCHdes}$ for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].
 - 2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":
 - 3> use the TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;
 - 3> if the IE " UL target SIR " is included ignore the parameter.
- 1> both in FDD and TDD;
 - 2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:
 - 3> set the variable INVALID_CONFIGURATION to true.

[1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

8.6.6.32 ~~Downlink HS-PDSCH Information~~ Void

~~If the IE "Downlink HS-PDSCH Information" is included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message, the UE shall:~~

- ~~1> if the IE "New H-RNTI" is included:

 - 2> perform the actions as specified in subclause 8.6.3.1b.~~
- ~~1> if the IE "HS-SCCH-Info" is included:

 - 2> act as specified in subclause 8.6.6.33.~~

- ~~1> if the IE "Measurement Feedback Info" is included:

 - ~~2> act as specified in subclause 8.6.6.34.~~~~
- ~~1> if the IE "HS-DSCH Timeslot Configuration" or "HS-PDSCH Midamble Configuration" is included:

 - ~~2> store the received configuration.~~~~
- ~~1> For FDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "Measurement Feedback Info"; and~~
- ~~1> For FDD, if the UE has received IE "Uplink-DPCH Power Control Info" and stored Δ_{ACK} , Δ_{NACK} and Ack-NACK Repetition factor; and~~
- ~~1> For FDD, if the UE has stored IEs "MAC-hs queue to add or reconfigure list", "MAC-d PDU size Info" and "RB Mapping Info" corresponding to the HS-PDSCH configuration;~~
- ~~1> for 3.84 Mcps TDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "HS-PDSCH Timeslot Configuration"; or~~
- ~~1> for 1.28 Mcps TDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "HS-PDSCH Midamble Configuration":

 - ~~2> set the variable HS_DSCH_RECEPTION to TRUE;~~
 - ~~2> start HS-DSCH reception procedures according to the stored HS-PDSCH configuration:

 - ~~3> as stated in subclause 8.6.3.1b for the IE "H-RNTI";~~
 - ~~3> in subclause 8.6.6.33 for the IE "HS-SCCH Info"; and~~
 - ~~3> in subclause 8.6.6.34 for the IE "Measurement Feedback Info".~~~~~~

~~If the IE "Downlink HS-PDSCH Information" is not included, the UE shall:~~

- ~~1> set the variable HS_DSCH_RECEPTION to FALSE;~~
- ~~1> stop HS-DSCH reception procedures according to the stored HS-PDSCH configuration.~~

8.6.6.33 HS-SCCH Info

If the IE "HS-SCCH Info" is included and the UE will be in CELL_DCH state after completion of this procedure, the UE shall:

- 1> store the received configuration.
- 1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

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

- 1> in the case of FDD:
 - 2> receive the HS-SCCH(s) according to the IE "HS-SCCH channelisation code" on the serving HS-DSCH radio link applying the scrambling code as received in the IE "DL Scrambling code".
- 1> in the case of TDD:
 - 2> receive the HS-SCCH(s) according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.
 - 2> transmit the HS-SICH according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.

2> in 3.84 Mcps TDD:

3> use the parameters specified in the IE "HS-SICH power control info" and "ACK-NAK power offset" for open loop power control as defined in subclause 8.5.7.

2> in 1.28 Mcps TDD:

3> use the IE "PRX_{HS-SICH}" and "ACK-NAK power offset" to calculate and set an initial uplink transmission power;

3> use the IE "TPC step size" upon reception of TPC commands for closed loop power control.

8.6.6.34 Measurement Feedback Info

If the IE "Measurement Feedback Info" is included [and the UE will be in CELL_DCH state after completion of this procedure](#), the UE shall:

1> store the received configuration.

[1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

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

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

13.4.800 HS_DSCH_RECEPTION

This variable indicates whether [HS-SCCH and HS-DSCH](#) reception procedures are ongoing. [See subclause 8.5.25 for actions related to the setting of this variable.](#)

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
HS-DSCH reception	MP		Boolean	TRUE: HS-DSCH reception is ongoing. Set to FALSE when entering UTRA RRC connected mode when not otherwise stated in the procedure. Set to FALSE when leaving UTRA RRC connected mode.	REL-5

CHANGE REQUEST

⌘ **25.331 CR 2394** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correction to HS-DSCH reception conditions		
Source:	⌘ RAN WG2		
Work item code:	⌘ HSDPA-L23	Date:	⌘ August 2004
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-6 Use <u>one</u> of the following releases: Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change: ⌘ 1) The HS_DSCH_RECEPTION variable is set to TRUE while checking the HS-DSCH configuration. However this checking does not include checking for a stored IE "HS-SCCH info" and except for checking whether the IE "Serving HS-DSCH RL indicator" is set to TRUE for one of the RLS in the active set; This behaviour is considered erroneous since it is impossible to start HS-SCCH reception when there is e.g. no HS-DSCH serving cell indicated.

2) The current specification does not take into account whether or not a RB is mapped to HS-DSCH. It does not seem to make sense to start HS-SCCH reception when there is no RB mapped to HS-DSCH.

3) The HS_DSCH_RECEPTION variable can only be set to TRUE when the UE receives the IE "DL HS-PDSCH information"; Thus e.g. when the UE receives the "HARQ info" IE only after receiving the "HS-PDSCH info", or the UE is informed about a "HS-DSCH serving cell" only after having received the IE "DL HS-PDSCH information", the UE will incorrectly not consider itself to have a complete HSDSCH configuration.

4) The HS_DSCH_RECEPTION variable is always (and only) set to "FALSE" when the UE receives a message in which the IE "DL HS-PDSCH information" is not present. This behaviour is considered incorrect: with this behaviour e.g. a reconfiguration message changing e.g. an RLC timer value for an SRB, or adding or removing a RB, will result in disabling HS-DSCH reception if the IE "DL HS-PDSCH information" is not included.

5) For several HS-DSCH related IE's it is unclear when the UE can forget about there contents.

6) Several smaller issues have been detected (see R2-04xxxx for more details).

Summary of change: ⌘

- 1) The check which allows the UE to set the HS_DSCH_RECEPTION variable has been extended. Now the variable should only be set to 'TRUE' when HS-SCCH & HS-DSCH reception is possible and usefull.
- 2) The check which allows the UE to set the HS_DSCH_RECEPTION variable has been extended. Now the variable should only be set to 'TRUE' when HS-SCCH & HS-DSCH reception is possible and usefull.
- 3) The variable HS_DSCH_RECEPTION will be set to 'TRUE' whenever the UE has a complete HS-DSCH related configuration.
- 4) The variable HS_DSCH_RECEPTION will be set to 'FALSE' whenever the UE no longer has a complete HS-DSCH related configuration.
- 5) The lifetime of all HS-DSCH related IE's has been clarified.
- 6) Several smaller corrections have been made like:
 - allow change of H_RNTI while being in CELL_DCH state (8.6.3.1b);
 - allow removal of a serving HS-DSCH RL (8.6.6.4);
 - not require HARQ related memory reservations to be made unless the HS_DSCH_RECEPTION variable is set to "TRUE" (8.6.5.6b);
 - allow change of DL HS PDSCH Information while in CELL_DCH state (8.6.6.33/8.6.6.34).

Rev 0:
 The following changes/additions are made in Rev0 of this CR:

- Section 8.5.25: the requirement on having a serving HS-DSCH RL is only applicable for FDD;
- Section 8.5.25: a note is added to explain the main options the UTRAN has to enable/disable HS-DSCH reception;
- Section 8.6.6.4: Text, which was proposed to be deleted regarding the setting of the serving HS-DSCH radio link when entering CELL_DCH state, is kept.
- The changes that were proposed by R2-041434/R2-041435 on section 8.5.21 and 8.6.5.5.a are included in this CR.

Consequences if not approved: ⌘ The listed unclarities/inconsistencies will remain in the specification.

Clauses affected: ⌘ 8.2.2.3; 8.2.2.7; 8.3.1.2; 8.3.4.3; 8.3.7.3; 8.3.11.1; 8.5.21; 8.5.25 (new); 8.6.3.1b; 8.6.4.6; 8.6.4.8; 8.6.5.5a; 8.6.5.6b; 8.6.6.4; 8.6.6.11; 8.6.6.32; 8.6.6.33; 8.6.6.34; 13.4.8oo

Other specs affected: ⌘

Y	N

Other core specifications ⌘
 Test specifications ⌘
 O&M Specifications ⌘

Other comments: ⌘

How to create CRs using this form:

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

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

8.2.2.3 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:

- 1> be able to receive any of the following messages:
 - 2> RADIO BEARER SETUP message; or
 - 2> RADIO BEARER RECONFIGURATION message; or
 - 2> RADIO BEARER RELEASE message; or
 - 2> TRANSPORT CHANNEL RECONFIGURATION message; or
 - 2> PHYSICAL CHANNEL RECONFIGURATION message;
- 1> be able to perform a hard handover and apply physical layer synchronisation procedure A as specified in [29], even if no prior UE measurements have been performed on the target cell and/or frequency.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

- 1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the reconfiguration message and the reconfiguration requests a timing re-initialised hard handover (see subclause 8.3.5.1), the UE may:
 - 2> abort the pending CM activation;
 - 2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.
- 1> otherwise:
 - 2> set the CM_PATTERN_ACTIVATION_ABORTED to FALSE.

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> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:
 - 2> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).
- 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 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.

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

~~1> stop any HS_DSCH reception procedures;~~

1> clear any stored [IE "Downlink HS-PDSCH information" configuration](#);

~~1> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~

~~1> release all HARQ resources;~~

~~1> remove any H-RNTI stored;~~

~~1> clear the variable H-RNTI;~~

1> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25](#)~~set the variable HS_DSCH_RECEPTION to FALSE.~~

~~NOTE: If configured for HS-DSCH, the UE will have still stored the IEs "Added or Reconfigured MAC-d flow" and "RB mapping Info".~~

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.

// partly ommitted //

8.2.2.7 Physical channel failure

If the received message caused the UE to be in CELL_DCH state and the UE according to subclause 8.5.4 failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> if HS-DSCH is configured:

~~2> stop any HS-DSCH reception procedures;~~

~~2> clear any stored HS-PDSCH configuration;~~

~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~

~~2> release all HARQ resources;~~

~~2> remove any H-RNTI stored;~~

~~2> clear the variable H-RNTI;~~

2> no longer consider any radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25 ~~2> set the variable HS_DSCH_RECEPTION to FALSE.~~

1> if the CM_PATTERN_ACTIVATION_ABORTED flag is not set to TRUE:

2> revert to the configuration prior to the reception of the message (old configuration);

2> if the UE was in Cell DCH state prior to the reconfiguration:

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

3> after the establishment of the uplink physical channel, send DPCCH and no DPDCH according to [26] during the number of frames indicated in the IE "PC preamble" in the variable LATEST_CONFIGURED_SRB_DELAY_AND_PC_PREAMBLE; and

3> then not send any data on signalling radio bearers RB0 to RB4 during the number of frames indicated in the IE "SRB delay" in the variable LATEST_CONFIGURED_SRB_DELAY_AND_PC_PREAMBLE.

1> if the CM_PATTERN_ACTIVATION_ABORTED flag is set to TRUE or if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

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

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

// partly ommitted //

8.3.1.2 Initiation

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

1> Uplink data transmission:

- 2> if the UE is in URA_PCH or CELL_PCH state; and
- 2> if the UE has uplink RLC data PDU or uplink RLC control PDU on RB1 or upwards to transmit:
- 3> perform cell update using the cause "uplink data transmission".

1> Paging response:

- 2> if the criteria for performing cell update with the cause specified above in the current subclause are not met; and
- 2> if the UE in URA_PCH or CELL_PCH state, receives a PAGING TYPE 1 message fulfilling the conditions for initiating a cell update procedure specified in subclause 8.1.2.3:
- 3> perform cell update using the cause "paging response".

1> Radio link failure:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
- 3> if the UE is in CELL_DCH state and the criteria for radio link failure are met as specified in subclause 8.5.6; or
- 3> if the transmission of the UE CAPABILITY INFORMATION message fails as specified in subclause 8.1.6.6:
- 4> perform cell update using the cause "radio link failure".

1> Re-entering service area:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE is in CELL_FACH or CELL_PCH state; and
- 2> if the UE has been out of service area and re-enters service area before T307 or T317 expires:
- 3> perform cell update using the cause "re-entering service area".

1> RLC unrecoverable error:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE detects RLC unrecoverable error [16] in an AM RLC entity:
- 3> perform cell update using the cause "RLC unrecoverable error".

1> Cell reselection:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:
- 3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or
- 3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:
- 4> perform cell update using the cause "cell reselection".

1> Periodical cell update:

- 2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and
- 2> if the UE is in CELL_FACH or CELL_PCH state; and
- 2> if the timer T305 expires; and
- 2> if the criteria for "in service area" as specified in subclause 8.5.5.2 are fulfilled; and
- 2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":
 - 3> perform cell update using the cause "periodical cell update".

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

- 2> if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or
- 2> if the list of URA identities in system information block type 2 is empty; or
- 2> if the system information block type 2 can not be found:
 - 3> perform URA update using the cause "change of URA".

1> Periodic URA update:

- 2> if the criteria for performing URA update with the causes as specified above in the current subclause are not met; and
- 2> if the timer T305 expires while the UE is in the service area; and
- 2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":
 - 3> perform URA update using the cause "periodic URA update".

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

- 1> stop timer T305;
- 1> if the UE is in CELL_DCH state:
 - 2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;
 - 2> if the stored values of the timer T314 and timer T315 are both equal to zero; or
 - 2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - 3> release all its radio resources;
 - 3> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - 3> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - 3> clear the variable ESTABLISHED_RABS;
 - 3> enter idle mode;
 - 3> perform other actions when entering idle mode from connected mode as specified in subclause 8.5.2;
 - 3> and the procedure ends.

- 2> if the stored value of the timer T314 is equal to zero:
 - 3> release all radio bearers, associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314";
 - 3> in the variable RB_TIMER_INDICATOR set the IE "T314 expired" to TRUE.
- 2> if the stored value of the timer T315 is equal to zero:
 - 3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";
 - 3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.
- 2> if the stored value of the timer T314 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":
 - 4> start timer T314.
 - 3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":
 - 4> start timer T314.
- 2> if the stored value of the timer T315 is greater than zero:
 - 3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":
 - 4> start timer T315.
- 2> for the released radio bearer(s):
 - 3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;
 - 3> when all radio bearers belonging to the same radio access bearer have been released:
 - 4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;
 - 4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.
- 2> select a suitable UTRA cell on the current frequency according to [4];
- 2> set the variable ORDERED_RECONFIGURATION to FALSE.
- 1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;
- 1> set the variable CELL_UPDATE_STARTED to TRUE;
- 1> if HS-DSCH is configured:
 - ~~2> stop any HS-DSCH reception procedures;~~
 - 2> clear any stored [IE "Downlink HS-PDSCH information" configuration](#);
 - ~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~
 - ~~2> release all HARQ resources;~~
 - ~~2> remove any H-RNTI stored;~~
 - ~~2> clear the variable H-RNTI;~~

- 2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25. ~~set the variable HS_DSCH_RECEPTION to FALSE.~~
- 1> if the UE is not already in CELL_FACH state:
 - 2> move to CELL_FACH state;
 - 2> select PRACH according to subclause 8.5.17;
 - 2> select Secondary CCPCH according to subclause 8.5.19;
 - 2> use the transport format set given in system information as specified in subclause 8.6.5.1.
- 1> if the UE performs cell re-selection:
 - 2> clear the variable C_RNTI; and
 - 2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.
- 1> set CFN in relation to SFN of current cell according to subclause 8.5.15;
- 1> in case of a cell update procedure:
 - 2> set the contents of the CELL UPDATE message according to subclause 8.3.1.3;
 - 2> submit the CELL UPDATE message for transmission on the uplink CCCH.
- 1> in case of a URA update procedure:
 - 2> set the contents of the URA UPDATE message according to subclause 8.3.1.3;
 - 2> submit the URA UPDATE message for transmission on the uplink CCCH.
- 1> set counter V302 to 1;
- 1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

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 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 shall:

- 1> first add the RLS indicated in the IE "Radio Link Addition Information";
- 1> remove the RLS indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- 1> perform the physical layer synchronisation procedure B as specified in [29];
- 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 radio link currently considered to be the serving HS-DSCH radio link is indicated in the IE "Radio Link Removal Information"](#):
 - 2> [no longer consider any radio link as the serving HS-DSCH radio link](#);
 - 2> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)
- 1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- 1> clear that entry;
- 1> transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the completion of the Physical Layer synchronisation B, as specified in [29];
- 1> the procedure ends on the UE side.

8.3.7.3 Reception of a HANDOVER FROM UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER FROM UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target cell.

The UE shall:

- 1> if HS-DSCH is configured for UTRA:
 - ~~2> stop any HS_DSCH reception procedures;~~
 - ~~2> clear any stored HS_PDSCH configuration;~~
 - ~~2> act as if the IE "MAC_hs_reset_indicator" is received and set to TRUE;~~
 - ~~2> release all HARQ resources;~~
 - ~~2> remove any H_RNTI stored;~~
 - ~~2> clear the variable H_RNTI;~~

2> no longer consider any radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.~~set the variable HS_DSCH_RECEPTION to FALSE.~~

1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the HANDOVER FROM UTRAN COMMAND the UE may:

2> abort the pending CM activation;

2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.

1> otherwise:

2> set the CM_PATTERN_ACTIVATION_ABORTED to FALSE.

// partly ommitted //

8.3.11.3 Reception of an CELL CHANGE ORDER FROM UTRAN message by the UE

The UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message and perform a cell change order to another RAT, even if no prior UE measurements have been performed on the target cell.

If the variable ESTABLISHED_SIGNALLING_CONNECTIONS does not include the CN domain identity "PS domain", or if the variable ESTABLISHED_SIGNALLING_CONNECTIONS includes the CN domain identity "CS domain":

1> the UE shall act as if the message was never received.

The UE shall:

1> if HS-DSCH is configured for UTRA:

~~2> stop any HS_DSCH reception procedures;~~

~~2> clear any stored HS_PDSCH configuration;~~

~~2> act as if the IE "MAC hs reset indicator" is received and set to TRUE;~~

~~2> release all HARQ resources;~~

~~2> remove any H_RNTI stored;~~

~~2> clear the variable H_RNTI;~~

2> no longer consider any radio link as the serving HS-DSCH radio link;

2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.~~set the variable HS_DSCH_RECEPTION to FALSE.~~

1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the CELL CHANGE ORDER FROM UTRAN message the UE may:

2> abort the pending CM activation;

2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.

1> otherwise:

2> set the CM_PATTERN_ACTIVATION_ABORTED to FALSE.

// partly ommitted //

8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set" [and/or the IE "Added or reconfigured MAC-d flow"](#), when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH after detecting a radio link failure (see subclause 8.5.6) and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.
- 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
- 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
- 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:

3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration:

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH after detecting a radio link failure the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

8.5.25 Actions related to HS_DSCH_RECEPTION variable (NEW)

The variable HS_DSCH_RECEPTION shall be set to "TRUE" only when all the following conditions are met:

1> the UE is in CELL_DCH state;

1> the variable H_RNTI is set;

1> the UE has a stored IE "HS-SCCH info";

1> for FDD:

2> one of the radio links in the active set is configured as the serving HS-DSCH radio link;

2> the UE has stored the following IEs:

- IE "Measurement Feedback Info";

- IE "Uplink DPCH Power Control Info" including stored Δ_{ACK} , Δ_{NACK} and Ack-NACK Repetition factor;

- IE "HARQ info";

1> for 3.84 Mcps TDD, the UE has stored the following IE:

- IE "HS-PDSCH Timeslot Configuration";

1> for 1.28 Mcps TDD, the UE has stored the following IE:

- IE "HS-PDSCH Midamble Configuration";

1> there is at least one RB mapped to HS-DSCH;

1> at least for one of the RB's mapped to HS-DSCH, there is at least one MAC-hs queue (including the IE "MAC-d PDU size Info") configured for the concerning MAC-d flow;

Note: To enable or disable HS-DSCH reception, the UTRAN has the possibility to add/remove the concerning HS-DSCH related RB mapping options, add/remove the concerning MAC-d flows or, for FDD, add/remove the serving HS-DSCH radio link.

If any of the above conditions is not met and the variable HS_DSCH_RECEPTION is set to TRUE, the UE shall:

1> set the variable HS_DSCH_RECEPTION to FALSE;

1> stop any HS_SCCH reception procedures;

1> stop any HS-DSCH reception procedures;

1> clear the variable H_RNTI and remove any stored H-RNTI;

1> act as if the IE "MAC-hs reset indicator" is received and set to TRUE;

1> release all HARQ resources;

1> no long consider any radio link to be the HS-DSCH serving radio link.

NOTE: If configured for HS-DSCH and not explicitly indicated as being cleared, the UE will have still stored the IEs "HARQ info", "Added or Reconfigured MAC-d flow", "RB mapping Info" and "Downlink HS-PDSCH information".

Whenever the variable HS_DSCH_RECEPTION is set to TRUE, the UE shall:

1> perform HS_SCCH reception procedures according to the stored HS-SCCH configuration as stated in:

2> subclause 8.6.6.33 for the IE "HS-SCCH Info".

1> perform HS-DSCH reception procedures according to the stored HS-PDSCH configuration as stated in:

2> subclause 8.6.3.1b for the IE "H-RNTI";

2> subclause 8.6.5.6b for the IE "HARQ info";

2> subclause 8.6.6.34 for the IE "Measurement Feedback Info".

Whenever the variable HS_DSCH_RECEPTION is set to FALSE, the UE shall:

1> not perform HS_SCCH reception procedures;

1> not perform HS-DSCH reception procedures;

8.6.3.1b H-RNTI

If the IE "New H-RNTI" is included [and the UE will be in CELL_DCH state after completion of this procedure](#), the UE shall:

~~1> if the IE "Downlink HS-PDSCH Information" is also included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message:~~

~~1>~~ store the value in the variable H_RNTI;

[1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

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

1> use the value of the variable H_RNTI as UE identity in the HS-SCCH reception procedure in the physical layer.

8.6.4.6 RB information to release

If the IE "RB information to release" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

1> if the IE "RB identity" is set to a value less than 4:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if the IE "RB identity" refers to a signalling radio bearer:

2> release the RLC entity for the signalling radio bearer;

2> delete the information about the signalling radio bearer from the variable ESTABLISHED_RABS.

1> if the IE "RB identity" refers to a radio bearer:

2> release the PDCP and RLC entities for that radio bearer;

2> indicate release of the RAB subflow associated with the radio bearer to upper layers;

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

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

3> indicate release of the radio access bearer to upper layers providing the "CN domain identity" together with the "RAB identity" stored in the variable ESTABLISHED_RABS;

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

[The UE shall:](#)

[1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

1> for each multiplexing option of the RB:

2> if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH or DSCH or HS-DSCH is included:

3> set the variable INVALID_CONFIGURATION to TRUE.

- 2> if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the uplink logical channel transferring data PDUs has more than one element not equal to zero:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - 3> set the variable INVALID_CONFIGURATION to TRUE.
- 2> for each logical channel in that multiplexing option:
 - 3> if the value of the IE "RLC size list" is set to "Explicit list":
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - 4> if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
 - 3> if the value of the IE "RLC size list" is set to "All":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - 5> set the variable INVALID_CONFIGURATION to TRUE.
 - 3> if the value of the IE "RLC size list" is set to "Configured":
 - 4> if the transport channel this logical channel is mapped on is RACH; or
 - 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that

transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or

- 4> if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:

- 5> set the variable INVALID_CONFIGURATION to TRUE.

- 1> if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:

- 2> set the variable INVALID_CONFIGURATION to TRUE.

- 1> if the "RB mapping info" is considered as valid according to the rules above:

- 2> delete all previously stored multiplexing options for that radio bearer;

- 2> store each new multiplexing option for that radio bearer;

- 2> perform the actions as specified in subclause 8.5.21;

- 2> [determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

- 1> if the IE "Uplink transport channel type" is set to the value "RACH":

- 2> in FDD:

- 3> refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in System Information Block 5, System Information Block 5bis or System Information Block 6.

- 2> in TDD:

- 3> use the first Transport Format of the PRACH of the IE "PRACH system information list" at the position equal to the value in the IE "RLC size index".

In case IE "RLC info" includes IE "Downlink RLC mode" ("DL RLC logical channel info" is mandatory present) but IE "Number of downlink RLC logical channels" is absent in the corresponding IE "RB mapping info", the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

If ciphering is applied, UTRAN should not map Transparent Mode RBs of different CN domains on the same transport channel and it should not map transparent mode SRBs and RBs onto the same transport channel. In such cases the UE behaviour is not specified.

8.6.5.5a Added or reconfigured MAC-d flow

If the IE "Added or reconfigured MAC-d flow" is included, the UE shall:

- 1> if a MAC-hs queue (identified by the IE "MAC-hs queue Id") is included in both the IE "MAC-hs queue to add or reconfigure list" and the IE "MAC-hs queue to delete list":

- 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> for each MAC-hs queue included in the IE "MAC-hs queue to add or reconfigure" list:
 - 2> if the UE has previously stored a mapping between this MAC-hs queue and a MAC-d flow:
 - 3> delete the old mapping.
 - 2> map the MAC-d flow indicated in the current message to this MAC-hs queue;
 - 2> set the release timer for each of the MAC-hs queues in the MAC-hs entity to the value in the corresponding IE "T1";
 - 2> set the MAC-hs receiver window size for each of the MAC-hs queues in the MAC-hs entity to the value in the corresponding IE "MAC-hs window size"; and
 - 2> configure MAC-hs with the mapping between MAC-d PDU sizes index and allowed MAC-d PDU sizes as follows:
 - 3> if a MAC-d PDU size has been stored for a MAC-d PDU size index for the corresponding MAC-hs queue and no mapping is provided in the current message for this MAC-d PDU index:
 - 4> continue to use this mapping.
 - 3> if a MAC-d PDU size has been stored for a MAC-d PDU size index for the corresponding MAC-hs queue and a mapping is provided in the current message for this MAC-d PDU index:
 - 4> configure the MAC-hs entity with the mapping indicated in the current message.
- 1> for each MAC-hs queue included in the IE "MAC-hs queue to delete" list:
 - 2> delete any information about the MAC-hs queue identified by the IE "MAC-hs queue Id".

1> if the IE "Added or reconfigured MAC-d flow" is considered valid according to the rules above:

2> perform the actions as specified in subclause 8.5.21.

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

8.6.5.6b HARQ Info

If the IE "HARQ Info" is included, the UE shall:

1> store the received configuration;

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

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

1> configure the MAC-hs entity with the number of HARQ processes indicated in IE "Number of Processes";

1> assign to each of these HARQ processes IDs going from 0 to "Number of Processes" – 1;

1> if the IE "Memory Partitioning" is set to 'Implicit':

2> partition the soft memory buffer in the MAC-hs entity equally among the processes configured above. In the event that the division of the soft memory buffer results in a non-Integer value the partition memory size is rounded down to the nearest Integer value.

1> if the IE "Memory Partitioning" is set to 'Explicit':

2> if the UE capability "Total number of soft channel bits in HS-DSCH", as specified in [35], is exceeded with this configuration:

3> set the variable INVALID_CONFIGURATION to TRUE.

2> else:

- 3> partition the soft memory buffer in the MAC-hs entity according to the IE "Process memory size" assuming that the order in the list follows the order in the HARQ process IDs.

8.6.6.4 Downlink information for each radio link

If the IE "Downlink information for each radio link" is included in a received message, the UE shall:

- 1> if the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message:
 - 2> if the IE "SCCPCH Information for FACH" is included; and
 - 2> if the UE is in FDD mode and is not capable of simultaneous reception of DPCH and Secondary CCPCH:
 - 3> set the variable UNSUPPORTED_CONFIGURATION to TRUE;
 - 2> if the UE is in FDD mode and is capable of simultaneous reception of DPCH and SCCPCH:
 - 3> start to receive the indicated Secondary CCPCH.
 - 2> if the UE is in TDD mode and shared transport channels are assigned to the UE:
 - 3> start to receive the indicated Secondary CCPCH.
 - 2> if the UE is in TDD mode and no shared transport channels are assigned to the UE:
 - 3> set the variable UNSUPPORTED_CONFIGURATION to TRUE.
 - 2> if the IE "Serving HS-DSCH radio link indicator" is set to 'TRUE':
 - 3> consider this radio link as the serving HS-DSCH radio link;
 - ~~3> if the serving HS-DSCH radio link was another radio link than this radio link prior to reception of the message and the IE "H-RNTI" is not included:~~
 - ~~4> set the variable INVALID_CONFIGURATION to TRUE.~~
 - 2> act on the other IEs contained in the IE "Downlink information for each radio link" as specified in subclause 8.6 applied on this radio link.
- 1> in addition, if the message was received in CELL_DCH state and the UE remains in CELL_DCH state according to subclause 8.6.3.3 applied on the received message:
 - 2> if the IE "Serving HS-DSCH radio link indicator" is set to 'TRUE':
 - 3> consider this radio link as the serving HS-DSCH radio link;
 - 3> if the serving HS-DSCH radio link was another radio link than this radio link prior to reception of the message and the IE "H-RNTI" is not included:
 - 4> clear the variable H_RNTI.
 - 2> if the IE "Serving HS-DSCH radio link indicator" is set to 'FALSE' and this radio link was considered the serving HS-DSCH radio link prior to reception of this message:
 - 3> no longer consider this radio link as the serving HS-DSCH radio link;
 - 2> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.
 - 2> for each optional IE part of the IE "Downlink information for each radio link" that is not present:

- 3> do not change its current downlink physical channel configuration corresponding to the IE, which is absent, if not stated otherwise elsewhere.

NOTE: The Release '99 RADIO BEARER RECONFIGURATION message always includes at least one IE "Downlink information for each radio link" containing the mandatory IEs, even if UTRAN does not require the reconfiguration of any radio link.

- 1> if the UE would enter either the CELL_FACH, CELL_PCH or URA_PCH state according to subclause 8.6.3.3 applied on the received message:
 - 2> if the received message is CELL UPDATE CONFIRM:
 - 3> ignore the IE "Downlink information for each radio link".
 - 2> if the received message is any other message than CELL UPDATE CONFIRM; and
 - 2> if IEs other than the IE "Primary CPICH info" (for FDD) or the IE "Primary CCPCH info" (for TDD) are included in the IE "Downlink information for each radio link":
 - 3> ignore these IEs.
 - 2> act on the other IEs contained in the IE "Downlink information for each radio link" as specified in subclause 8.6 applied on this radio link.

8.6.6.11 Uplink DPCH power control info

The UE shall:

- 1> in FDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> if a synchronisation procedure A is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
 - 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.
- 1> in 3.84 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.
 - 2> else:
 - 3> use the current uplink transmission power.
- 1> in 1.28 Mcps TDD:
 - 2> if the CHOICE UL OL PC info is set to 'Broadcast UL OL PC info':
 - 3> set the variable INVALID_CONFIGURATION to true.

- 2> if the IE "Uplink DPCH power control info" is included in the UPLINK PHYSICAL CHANNEL CONTROL message:
 - 3> use the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.
 - 3> if the IE " UL target SIR " is included:
 - 4> use this value for parameter $PRX_{DPCHdes}$ for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].
- 2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":
 - 3> use the TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;
 - 3> if the IE " UL target SIR " is included ignore the parameter.
- 1> both in FDD and TDD;
 - 2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:
 - 3> set the variable INVALID_CONFIGURATION to true.

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

8.6.6.32 ~~Downlink HS-PDSCH Information~~ Void

~~If the IE "Downlink HS-PDSCH Information" is included and the UE would enter CELL_DCH state according to subclause 8.6.3.3 applied on the received message, the UE shall:~~

- ~~1> if the IE "New H-RNTI" is included:

 - 2> perform the actions as specified in subclause 8.6.3.1b.~~
- ~~1> if the IE "HS-SCCH Info" is included:

 - 2> act as specified in subclause 8.6.6.33.~~
- ~~1> if the IE "Measurement Feedback Info" is included:

 - 2> act as specified in subclause 8.6.6.34.~~
- ~~1> if the IE "HS-DSCH Timeslot Configuration" or "HS-PDSCH Midamble Configuration" is included:

 - 2> store the received configuration.~~
- ~~1> For FDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "Measurement Feedback Info"; and~~
- ~~1> For FDD, if the UE has received IE "Uplink DPCH Power Control Info" and stored A_{ACK} , A_{NACK} and Ack-NACK Repetition factor; and~~
- ~~1> For FDD, if the UE has stored IEs "MAC-hs queue to add or reconfigure list", "MAC-d PDU size Info" and "RB Mapping Info" corresponding to the HS-PDSCH configuration;~~
- ~~1> for 3.84 Mcps TDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "HS-PDSCH Timeslot Configuration"; or~~
- ~~1> for 1.28 Mcps TDD, if, as a result of the received message, the variable H-RNTI is set and the UE has a stored IE "HS-SCCH Info" and a stored IE "HS-PDSCH Midamble Configuration";~~
- ~~2> set the variable HS_DSCH_RECEPTION to TRUE;~~

- ~~2> start HS-DSCH reception procedures according to the stored HS-PDSCH configuration:~~
- ~~3> as stated in subclause 8.6.3.1b for the IE "H-RNTI";~~
- ~~3> in subclause 8.6.6.33 for the IE "HS-SCCH-Info"; and~~
- ~~3> in subclause 8.6.6.34 for the IE "Measurement-Feedback-Info".~~

If the IE "Downlink HS-PDSCH Information" is not included, the UE shall:

- ~~1> set the variable HS_DSCH_RECEPTION to FALSE;~~
- ~~1> stop HS-DSCH reception procedures according to the stored HS-PDSCH configuration.~~

8.6.6.33 HS-SCCH Info

If the IE "HS-SCCH Info" is included and the UE will be in CELL_DCH state after completion of this procedure, the UE shall:

- 1> store the received configuration.
- 1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

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

- 1> in the case of FDD:
 - 2> receive the HS-SCCH(s) according to the IE "HS-SCCH channelisation code" on the serving HS-DSCH radio link applying the scrambling code as received in the IE "DL Scrambling code".
- 1> in the case of TDD:
 - 2> receive the HS-SCCH(s) according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.
 - 2> transmit the HS-SICH according to the IEs "Timeslot Number", "Channelisation Code" and Midamble configuration IEs.
 - 2> in 3.84 Mcps TDD:
 - 3> use the parameters specified in the IE "HS-SICH power control info" and "ACK-NAK power offset" for open loop power control as defined in subclause 8.5.7.
 - 2> in 1.28 Mcps TDD:
 - 3> use the IE "PRX_{HS-SICH}" and "ACK-NAK power offset" to calculate and set an initial uplink transmission power;
 - 3> use the IE "TPC step size" upon reception of TPC commands for closed loop power control.

8.6.6.34 Measurement Feedback Info

If the IE "Measurement Feedback Info" is included and the UE will be in CELL_DCH state after completion of this procedure, the UE shall:

- 1> store the received configuration.

[1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.](#)

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

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

13.4.800 HS_DSCH_RECEPTION

This variable indicates whether [HS-SCCH and HS-DSCH](#) reception procedures are ongoing. [See subclause 8.5.25 for actions related to the setting of this variable.](#)

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
HS-DSCH reception	MP		Boolean	TRUE: HS-DSCH reception is ongoing. Set to FALSE when entering UTRA RRC connected mode when not otherwise stated in the procedure. Set to FALSE when leaving UTRA RRC connected mode.	REL-5

CHANGE REQUEST

⌘ 25.331 CR 2395 ⌘ rev - ⌘ Current version: 5.9.0 ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correction to RB mapping check		
Source:	⌘ RAN WG2		
Work item code:	⌘ TEI5	Date:	⌘ 17/Aug/2004
Category:	⌘ F Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP 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) Rel-6 (Release 6)

Reason for change: ⌘ 1.
In section 8.5.21 it is stated that upon moving to CELL_FACH after detecting a radio link failure, the UE shall perform the actions defined in the section only for signalling radio bearers. The intention is to avoid the case the UE moves to idle mode due to the fact that there is no multiplexing option for a configured radio bearer.
However this statement is not complete since there are other cases in which UE should not check RB mapping for configured radio bearers. The followings are examples.

- The UE enters CELL_FACH due to RLC unrecoverable error.
- The UE enters CELL_FACH after failing in reverting in case of hard handover failure (physical channel failure).

2.
In section 8.2.2.7 it is specified that in case of physical channel failure the UE shall stop any HS-DSCH reception procedure, releasing relevant resources. After that, if it happens upon hard handover, the UE shall try to revert back to the old configuration.
The section 8.5.21 states that the UE shall set the variable INVALID_CONFIGURATION to TRUE if there is no multiplexing option applicable for the transport channels to be used.
With the above, the UE could consider upon reverting to the old configuration that it doesn't have a valid multiplexing option for transport channel type "HS-DSCH". This causes the UE to move to idle mode according to 8.5.21. However in reality the UE has MAC-d flows to which the radio bearer can be correctly

	mapped.
	3. The UE should check whether there is more than one multiplexing option applicable for MAC-d flows as well as for the transport channels to be used.
Summary of change: ⌘	<p>1. It is proposed to specify that upon moving to CELL_FACH state from CELL_DCH state to initiate a cell update procedure the UE shall perform RB mapping check only for configured signalling radio bearers.</p> <p>2. It is proposed to state that the UE shall set the variable INVALID_CONFIGURATION to TRUE if there is no multiplexing option applicable for the transport channels and MAC-d flows to be used.</p> <p>3. It is proposed to state that the UE shall set the variable INVALID_CONFIGURATION to TRUE if there is more than one multiplexing option applicable for the transport channels or MAC-d flows to be used.</p>
Consequences if not approved:	<p>⌘ The UE would erroneously move to idle mode.</p> <p>Isolated impact analysis: The CR has isolated impact for RB mapping checking by UE. The CR only affects UE implementaion.</p> <p>Impact on test specifications: No impact is foreseen.</p>

Clauses affected:	⌘ 8.5.21												
Other specs affected:	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> <th></th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Other core specifications ⌘</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Test specifications</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>O&M Specifications</td> </tr> </tbody> </table>	Y	N		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications ⌘	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications
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8.5.21 Actions related to Radio Bearer mapping

When the UE receives the IE "RB mapping info" and/or the IE "Transport format set", when the UE performs a cell reselection or a state transition, or when the UE releases a RB, the UE shall for each of the configured Radio Bearers:

- 1> upon moving to CELL_FACH ~~state from CELL_DCH state to initiate a cell update procedure after detecting a radio link failure (see subclause 8.5.6)~~ and upon subsequent cell reselections until the first successfully completed cell update procedure, perform the actions defined in the remainder of this subclause only for signalling radio bearers;
- 1> for FDD, select the multiplexing option according to the following:
 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH" for the DL, and the corresponding DCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option.
 - 1> configure the MAC with the appropriate transport format set (with computed transport block sizes) for the transport channel used by that RB;
 - 1> determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received);
 - 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:

3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

2> apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity.

NOTE: The IE "RB mapping info" is only included in the IE "Predefined RB configurations" in system information when used for Inter-RAT handover to UTRAN and there is no AM RLC size change involved in this case.

1> if that RB is using AM and the RLC size applicable to the uplink logical channel transporting data PDUs is different from the one derived from the previously stored configuration:

2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

2> else:

3> re-establish the corresponding RLC entity.

2> configure the corresponding RLC entity with the new uplink RLC size;

2> for each AM RLC radio bearer in the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS whose RLC size is changed; and

2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels [and MAC-d flows](#) to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels [or MAC-d flows](#) to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH [state from CELL_DCH state to initiate cell update procedure after detecting a radio link failure](#) the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

CHANGE REQUEST

⌘ 25.331 CR 2396 ⌘ rev - ⌘ Current version: 6.2.0 ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Correction to RB mapping check		
Source:	⌘ RAN WG2		
Work item code:	⌘ TEI5	Date:	⌘ 17/Aug/2004
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-6 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

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- The UE enters CELL_FACH after failing in reverting in case of hard handover failure (physical channel failure).

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In section 8.2.2.7 it is specified that in case of physical channel failure the UE shall stop any HS-DSCH reception procedure, releasing relevant resources. After that, if it happens upon hard handover, the UE shall try to revert back to the old configuration.

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With the above, the UE could consider upon reverting to the old configuration that it doesn't have a valid multiplexing option for transport channel type "HS-DSCH". This causes the UE to move to idle mode according to 8.5.21. However in reality the UE has MAC-d flows to which the radio bearer can be correctly

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 - 2> if the UE is in CELL_FACH state:
 - 3> if the RB has a multiplexing option with transport channel type "FACH" for the DL and transport channel type "RACH" for the UL:
 - 4> select this multiplexing option.
 - 2> if the UE is in CELL_DCH state:
 - 3> if the RB has a multiplexing option with transport channel type "DCH + HS-DSCH" for the DL, and both the corresponding DCH transport channel and MAC-d flow are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DCH + DSCH" for the DL, and both the corresponding DCH and DSCH transport channels are configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "HS-DSCH" for the DL, and the corresponding MAC-d flow is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
 - 3> if the RB has a multiplexing option with transport channel type "DSCH" for the DL, and the corresponding DSCH transport channel is configured, and with transport channel type "DCH" for the UL, and the corresponding DCH transport channel is configured:
 - 4> select this multiplexing option; else
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 - 1> in case the selected multiplexing option is a multiplexing option on RACH:
 - 2> ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH.
 - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:

3> set the variable INVALID_CONFIGURATION to TRUE.

1> if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:

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2> if the RLC size change is caused by a reconfiguration message or a CELL UPDATE CONFIRM; and

2> the IE "one sided RLC re-establishment" is included in that message and is set to TRUE:

3> re-establish the transmitting side of the corresponding RLC entity.

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2> for each AM RLC signalling radio bearer in the CN domain as indicated in the IE "CN domain identity" in the variable LATEST_CONFIGURED_CN_DOMAIN whose RLC size is changed:

3> if the IE "Status" in the variable CIPHERING_STATUS of this CN domain is set to "Started":

4> if the information causing the RLC re-establishment was included in system information:

5> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for this CN domain that will be included in the CELL UPDATE message following cell reselection.

NOTE: Since the UE cannot predict the START value at the time of the next CELL UPDATE transmission in the future, UTRAN should desist from changing the RLC size for a signalling radio bearer within a cell. Other than this case the change in RLC size for a signalling radio bearer is known to the UE when reading system information following cell reselection.

4> if the RLC re-establishment is caused by a CELL UPDATE CONFIRM:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the uplink equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for this CN domain.

4> if the RLC re-establishment is caused by a reconfiguration message:

5> if the whole RLC entity was re-established:

6> set the HFN values for the corresponding RLC entity in uplink and downlink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

5> if only the transmitting side of the RLC entity was re-established:

6> set the HFN value for the corresponding RLC entity in the direction uplink equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE1: If the UTRAN modifies the RLC size for RB2 on any reconfiguration message or Cell Update Confirm message, the UE behaviour is unspecified in this version of the specification.

NOTE2: The UE cannot rely on the configured Transport Formats to determine the RLC sizes to be used in downlink for a particular logical channel. This size can be signalled explicitly in the RLC Info IE.

1> if that RB is using UM:

2> indicate the largest RLC size applicable for uplink to the corresponding RLC entity.

1> configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);

1> configure the MAC with the logical channel priorities according to selected multiplexing option;

1> configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;

1> if there is no multiplexing option applicable for the transport channels [and MAC-d flows](#) to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if there is more than one multiplexing option applicable for the transport channels [or MAC-d flows](#) to be used:

2> set the variable INVALID_CONFIGURATION to TRUE.

If upon cell re-selection or upon moving to CELL_FACH [state from CELL_DCH state to initiate cell update procedure after detecting a radio link failure](#) the UE sets variable INVALID_CONFIGURATION to TRUE as a result of the actions defined in this subclause, the UE should:

1> move to idle mode;

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

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

CHANGE REQUEST

25.331 CR 2397 # rev # Current version: **5.9.0**

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Position Timestamp for A-GPS		
Source:	# RAN WG2		
Work item code:	# TEI5 Date: # 16/08/04		
Category:	# F Release: # Rel-5		
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><i>Use <u>one</u> of the following categories:</i></p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </td> <td style="width: 50%; vertical-align: top;"> <p><i>Use <u>one</u> of the following releases:</i></p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p> </td> </tr> </table>	<p><i>Use <u>one</u> of the following categories:</i></p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use <u>one</u> of the following releases:</i></p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p>
<p><i>Use <u>one</u> of the following categories:</i></p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use <u>one</u> of the following releases:</i></p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p>		

Reason for change:	# - There is no requirement in the specifications for the timestamp on the position estimate of the UE.
	- At the moment, for the UE based, the specifications only indicate to "include the IE" but does not state how to set the value of the IE
	- For the UE assisted, the specifications is the same apart for an additional requirement which is stated as "this time is the GPS TOW measured by the UE". There is a common understanding that this means the time the position estimate was made.
	- It is important that the common understanding is clarified as it is plan that this iE will be used in RAN4 test of GPS performance.
Summary of change:	# - In section 8.6.7.19.1a, for the UE assisted cases, it have been added that when including the IE "GPS TOW msec" it will be set to GPS TOW when measurements are valid.
	- In section 8.6.7.19.1b, for the UE based cases, it have been added when including the IE "GPS TOW msec" it will be set to GPS TOW when the position estimate is valid.
	- In section 10.3.7.93, "this time is the GPS TOW measured by UE" which is defining the GPS TOW, as the previous changes clarify the definition of GPS TOW.
	<i>Implementation of this CR by a Release 99/4 UE will not cause compatibility issues</i>
Consequences if not approved:	# - The problem is that the network does not know reliably the time at which the position estimate was made. In addition the RAN4 tests of GPS performance would not be able to rely on the time stamp information.

Clauses affected: # 8.6.7.19.1a, 8.6.7.19.1b, 10.3.7.93

Other specs affected:		Y	N	
	⌘	X		Other core specifications ⌘
			X	Test specifications
			X	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.
- 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

8.6.7.19 UE positioning

8.6.7.19.0 UE positioning reporting criteria

If IE "UE positioning reporting criteria" is included, the UE shall:

- 1> perform the necessary measurements and evaluate the event in the interval indicated in IE "Measurement Interval";
- 1> if IE "Event ID" is set to "7a" and if IE "Report first fix" is set to TRUE:
 - 2> if the IE "Method Type" included in the variable MEASUREMENT_IDENTITY is set to "UE based":
 - 3> act as specified in subclause 8.6.7.19.1b.

8.6.7.19.1 UE positioning reporting quantity

The UE shall:

- 1> ignore IE "Multiple Sets";
- 1> ignore IE "Response Time";
- 1> if IE "Horizontal Accuracy" and/or IE "Vertical Accuracy" is included:
 - 2> should try to achieve the requested level(s) of positioning accuracy with 67% confidence.
- 1> if IE "Positioning Methods" is set to "Cell ID":
 - 2> act as specified in subclause 8.6.7.19.1a.
- 1> if the IE "Method Type" is set to "UE based":
 - 2> act as specified in subclause 8.6.7.19.1b.
- 1> if the IE "Method Type" is set to "UE assisted":
 - 2> act as specified in subclause 8.6.7.19.1a.
- 1> if the IE "Method Type" is set to "UE-assisted preferred but UE-based allowed" or "UE-based preferred but UE-assisted allowed":
 - 2> act either according to subclause 8.6.7.19.1a or 8.6.7.19.1b depending on the method type chosen by the UE.

If UE according to its capabilities supports Rx-Tx time difference type 2 measurement and if IE "Positioning Methods" is set to "Cell ID" and the IE "Measurement validity" stored in the variable MEASUREMENT_IDENTITY is other than "CELL_DCH", the UE shall:

- 1> set the variable CONFIGURATION_INCOMPLETE to TRUE, and
- 1> act as specified in subclause 8.4.1.4b.

The UE shall perform the following consistency check:

- 1> if UE, according to its capabilities, does not support UE-based OTDOA and if IE "Positioning Methods" is set to "OTDOA" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 1> if UE, according to its capabilities, does not support UE-based GPS and if IE "Positioning Methods" is set to "GPS" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE-assisted GPS and if IE "Positioning Methods" is set to "GPS" and if IE "Method Type" is set to "UE-assisted":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE-based positioning and if IE "Positioning Methods" is set to "OTDOAorGPS" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support Rx-Tx time difference type 2 measurement and if IE "Positioning Methods" is set to "Cell ID":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE GPS timing of cell frames measurement and if IE "GPS timing of Cell wanted" is set to TRUE:
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

- 1> when a measurement report is triggered:
 - 2> if the UE was able to perform measurements on at least one neighbour cell included in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED in case of OTDOA or one satellite included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning or one cell from the active set in case of CELL ID:
 - 3> if the IE "Vertical Accuracy" is included:
 - 4> interpret the presence of this IE to indicate that the UTRAN desires to compute a 3-dimensional position estimate.
 - 3> if the IE "Positioning Methods" is set to "GPS":
 - 4> include the IE "UE positioning GPS measured results" in the measurement report and set the contents of the IE as follows:
 - 5> if the UE supports the capability to provide the GPS timing of the cell frames measurement:
 - 6> if the IE "GPS timing of Cell wanted" is set to TRUE:
 - 7> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.
 - 7> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD; and
 - 7> include the IE "Reference SFN" and the IE "UE GPS timing of cell frames".
 - 6> if the IE "GPS timing of Cell wanted" is set to FALSE:
 - 7> include the IE "GPS TOW msec" [and set it to the GPS TOW when the measurements included in the MEASUREMENT REPORT were valid.](#)
 - 5> if the UE does not support the capability to provide the GPS timing of the cell:

- 6> include the IE "GPS TOW msec" and set it to the GPS TOW when the measurements included in the MEASUREMENT REPORT were valid.
- 3> if the IE "Positioning Methods" is set to "OTDOA":
- 4> include the IE "UE positioning OTDOA measured results " in the measurement report and set the contents of the IE as follows:
 - 5> set IE "SFN" to the SFN when the last measurement was performed;
 - 5> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement:
 - 6> if the UE is in CELL_DCH state:
 - 7> if the measured value is equal to "1279.9375":
 - 8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to "1279.8750".
 - 7> otherwise:
 - 8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to the measured value.
 - 7> include the IE group "Rx-Tx time difference type 2 info" for the reference cell and for each neighbour cell listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED that belongs to the active set.
 - 5> if the UE does not support the capability to perform the Rx-Tx time difference type 2 measurement:
 - 6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375" to indicate that the measurement is not supported.
 - 4> include IE group "Neighbour" for all neighbour cells listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED on which the SFN-SFN observed time difference type 2 measurement could be performed.
- 3> if IE "Positioning Methods" in the MEASUREMENT CONTROL message has been assigned to value "OTDOA or GPS":
- 4> the UE may choose to either act as if IE "Positioning Methods" is set to "GPS" or "OTDOA" depending on the method chosen by the UE.
- 3> if the IE "Positioning Methods" is set to "CELL ID":
- 4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and
 - 4> if the UE is in CELL_DCH state:
 - 5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and
 - 5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and
 - 5> report Rx-Tx time difference type 2 measurement of the reference cell (as designated by the UE); and
 - 5> for all reported neighbour cells:

- 6> report Rx-Tx time difference type 2 measurement; and
 - 6> set the IE "SFN-SFN observed time difference type 2" and all IEs within the corresponding IE "UE positioning OTDOA quality" in IE "UE positioning OTDOA measured results" to value "0".
- 2> if the UE is not able to report the requested measurement results:
- 3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.
- 1> if the UE is unable to report the requested measurement results due to missing GPS assistance data:
- 2> the UE may at anytime send a measurement report containing the IE "UE positioning error" and set the contents of this IE as specified in subclause 8.6.7.19.5.
 - 2> after sending the measurement report, the UE shall not send another measurement report to request the same GPS assistance data for at least 20s. This requirement does not apply after release of the current RRC connection.

8.6.7.19.1b UE positioning reporting for UE based methods

The UE shall:

- 1> when a measurement report is triggered:
 - 2> if the UE has been able to calculate a position after performing measurements on the cells included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED in case of OTDOA or the UE has been able to calculate a position in case of GPS positioning:
 - 3> include IE "UE positioning Position Estimate Info" in the MEASUREMENT REPORT and set the contents of the IE as follows:
 - 4> if the UE supports the capability to perform the UE GPS timing of cell frames measurement:
 - 5> if the IE "GPS timing of Cell wanted" is set to TRUE:
 - 6> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.
 - 6> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD;
 - 6> include the SFN when the position was determined;
 - 6> include the IE "UE GPS timing of cell frames".
 - 5> if the IE "GPS timing of Cell wanted" is set to FALSE:
 - 6> include the IE "GPS TOW msec" [and set it to the GPS TOW when the position estimate was valid.](#)
 - 4> if the UE does not support the capability to provide the GPS timing of the cell:
 - 5> include the IE "GPS TOW msec" [and set it to the GPS TOW when the position estimate was valid.](#)
 - 4> if IE "Vertical Accuracy" has been included in IE "UE positioning reporting quantity":
 - 5> if the IE "Vertical Accuracy" has been assigned to value "0":
 - 6> if the IE "Horizontal Accuracy" has been assigned a value "0":

- 7> may include IE "Ellipsoid point with altitude".
- 6> if the IE "Horizontal Accuracy" has been assigned a value unequal to "0"; and
- 6> if the UE has been able to calculate a 3-dimensional position
 - 7> include IE "Ellipsoid point with altitude" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.
- 6> if the UE has not been able to calculate a 3-dimensional position:
 - 7> may act as if IE "Vertical Accuracy" was not included in IE "UE positioning reporting quantity".
- 5> if the IE "Vertical Accuracy" has been assigned to a value unequal to "0":
 - 6> if the UE has been able to calculate a 3-dimensional position:
 - 7> include IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.
 - 6> if the UE has not been able to calculate a 3-dimensional position:
 - 7> act as if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity".
- 4> if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity":
 - 5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to value "0":
 - 6> may include IE "Ellipsoid point".
 - 5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to a value unequal to 0:
 - 6> include either IE "Ellipsoid point with uncertainty circle" or IE "Ellipsoid point with uncertainty ellipse" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.
- 2> if the UE was not able to calculate a position:
 - 3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.
- 1> if the UE is unable to calculate a position due to missing GPS assistance data:
 - 2> the UE may at any time send a measurement report containing the IE "UE positioning error" and set the contents of this IE as specified in subclause 8.6.7.19.5;
 - 2> after sending the measurement report, the UE shall not send another measurement report to request the same GPS assistance data for at least 20s. This requirement does not apply after release of the current RRC connection.

10.3.7.93 UE positioning GPS measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
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Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE <i>Reference Time</i>	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0..37158911999999)	GPS Time of Week in units of 1/16 th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE <i>mode</i>	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..4095)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured..
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6.048*10 ⁸ -1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	
>C/N ₀	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips.
>Fractional GPS Chips	MP		Integer(0..(2 ¹⁰ -1))	Scale factor 2 ⁻¹⁰
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
NM	Not measured
Low	MP error < 5m
Medium	5m < MP error < 43m
High	MP error > 43m

NOTE 2: The following table gives the bitmapping of the Pseudorange RMS Error field.

Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	$P < 0.5$
1	001	000	0.5625	$0.5 \leq P < 0.5625$
l	X	Y	$0.5 * (1 + x/8) * 2^y$	$x_{i-1} \leq P < x_i$
62	110	111	112	$104 \leq P < 112$
63	111	111	--	$112 \leq P$

CHANGE REQUEST

25.331 CR 2398 # rev # Current version: **6.2.0**

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Position Timestamp for A-GPS				
Source:	# RAN WG2				
Work item code:	# TEI5	Date:	# 16/08/04		
Category:	# A	Release:	# Rel-6		
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:		
	F (correction)		2 (GSM Phase 2)		
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)		
	B (addition of feature),		R97 (Release 1997)		
	C (functional modification of feature)		R98 (Release 1998)		
	D (editorial modification)		R99 (Release 1999)		
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)		
			Rel-5 (Release 5)		
			Rel-6 (Release 6)		

Reason for change:	#	<ul style="list-style-type: none"> - There is no requirement in the specifications for the timestamp on the position estimate of the UE. - At the moment, for the UE based, the specifications only indicate to "include the IE" but does not state how to set the value of the IE - For the UE assisted, the specifications is the same apart for an additional requirement which is stated as "this time is the GPS TOW measured by the UE". There is a common understanding that this means the time the position estimate was made. - It is important that the common understanding is clarified as it is plan that this iE will be used in RAN4 test of GPS performance.
Summary of change:	#	<ul style="list-style-type: none"> - In section 8.6.7.19.1a, for the UE assisted cases, it have been added that when including the IE "GPS TOW msec" it will be set to GPS TOW when measurements are valid. - In section 8.6.7.19.1b, for the UE based cases, it have been added when including the IE "GPS TOW msec" it will be set to GPS TOW when the position estimate is valid. - In section 10.3.7.93, "this time is the GPS TOW measured by UE" which is defining the GPS TOW, as the previous changes clarify the definition of GPS TOW. <p style="text-align: center;"><i>Implementation of this CR by a Release 99/4 UE will not cause compatibility issues</i></p>
Consequences if not approved:	#	<ul style="list-style-type: none"> - The problem is that the network does not know reliably the time at which the position estimate was made. In addition the RAN4 tests of GPS performance would not be able to rely on the time stamp information.

Clauses affected: # 8.6.7.19.1a, 8.6.7.19.1b, 10.3.7.93

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

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to

8.6.7.19 UE positioning

8.6.7.19.0 UE positioning reporting criteria

If IE "UE positioning reporting criteria" is included, the UE shall:

- 1> perform the necessary measurements and evaluate the event in the interval indicated in IE "Measurement Interval";
- 1> if IE "Event ID" is set to "7a" and if IE "Report first fix" is set to TRUE:
 - 2> if the IE "Method Type" included in the variable MEASUREMENT_IDENTITY is set to "UE based":
 - 3> act as specified in subclause 8.6.7.19.1b.

8.6.7.19.1 UE positioning reporting quantity

The UE shall:

- 1> ignore IE "Multiple Sets";
- 1> ignore IE "Response Time";
- 1> if IE "Horizontal Accuracy" and/or IE "Vertical Accuracy" is included:
 - 2> should try to achieve the requested level(s) of positioning accuracy with 67% confidence.
- 1> if IE "Positioning Methods" is set to "Cell ID":
 - 2> act as specified in subclause 8.6.7.19.1a.
- 1> if the IE "Method Type" is set to "UE based":
 - 2> act as specified in subclause 8.6.7.19.1b.
- 1> if the IE "Method Type" is set to "UE assisted":
 - 2> act as specified in subclause 8.6.7.19.1a.
- 1> if the IE "Method Type" is set to "UE-assisted preferred but UE-based allowed" or "UE-based preferred but UE-assisted allowed":
 - 2> act either according to subclause 8.6.7.19.1a or 8.6.7.19.1b depending on the method type chosen by the UE.

If UE according to its capabilities supports Rx-Tx time difference type 2 measurement and if IE "Positioning Methods" is set to "Cell ID" and the IE "Measurement validity" stored in the variable MEASUREMENT_IDENTITY is other than "CELL_DCH", the UE shall:

- 1> set the variable CONFIGURATION_INCOMPLETE to TRUE, and
- 1> act as specified in subclause 8.4.1.4b.

The UE shall perform the following consistency check:

- 1> if UE, according to its capabilities, does not support UE-based OTDOA and if IE "Positioning Methods" is set to "OTDOA" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 1> if UE, according to its capabilities, does not support UE-based GPS and if IE "Positioning Methods" is set to "GPS" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE-assisted GPS and if IE "Positioning Methods" is set to "GPS" and if IE "Method Type" is set to "UE-assisted":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE-based positioning and if IE "Positioning Methods" is set to "OTDOAorGPS" and if IE "Method Type" is set to "UE-based":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support Rx-Tx time difference type 2 measurement and if IE "Positioning Methods" is set to "Cell ID":
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> if UE, according to its capabilities, does not support UE GPS timing of cell frames measurement and if IE "GPS timing of Cell wanted" is set to TRUE:
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

- 1> when a measurement report is triggered:
 - 2> if the UE was able to perform measurements on at least one neighbour cell included in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED in case of OTDOA or one satellite included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning or one cell from the active set in case of CELL ID:
 - 3> if the IE "Vertical Accuracy" is included:
 - 4> interpret the presence of this IE to indicate that the UTRAN desires to compute a 3-dimensional position estimate.
 - 3> if the IE "Positioning Methods" is set to "GPS":
 - 4> include the IE "UE positioning GPS measured results" in the measurement report and set the contents of the IE as follows:
 - 5> if the UE supports the capability to provide the GPS timing of the cell frames measurement:
 - 6> if the IE "GPS timing of Cell wanted" is set to TRUE:
 - 7> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.
 - 7> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD; and
 - 7> include the IE "Reference SFN" and the IE "UE GPS timing of cell frames".
 - 6> if the IE "GPS timing of Cell wanted" is set to FALSE:
 - 7> include the IE "GPS TOW msec" and set it to the GPS TOW when the measurements included in the measurement report were valid.
 - 5> if the UE does not support the capability to provide the GPS timing of the cell:

- 6> include the IE "GPS TOW msec" and set it to the GPS TOW when the measurements included in the measurement report were valid.
- 3> if the IE "Positioning Methods" is set to "OTDOA":
 - 4> include the IE "UE positioning OTDOA measured results " in the measurement report and set the contents of the IE as follows:
 - 5> set IE "SFN" to the SFN when the last measurement was performed;
 - 5> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement:
 - 6> if the UE is in CELL_DCH state:
 - 7> if the measured value is equal to "1279.9375":
 - 8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to "1279.8750".
 - 7> otherwise:
 - 8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to the measured value.
 - 7> include the IE group "Rx-Tx time difference type 2 info" for the reference cell and for each neighbour cell listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED that belongs to the active set.
 - 5> if the UE does not support the capability to perform the Rx-Tx time difference type 2 measurement:
 - 6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375" to indicate that the measurement is not supported.
 - 4> include IE group "Neighbour" for all neighbour cells listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED on which the SFN-SFN observed time difference type 2 measurement could be performed.
 - 3> if IE "Positioning Methods" in the MEASUREMENT CONTROL message has been assigned to value "OTDOA or GPS":
 - 4> the UE may choose to either act as if IE "Positioning Methods" is set to "GPS" or "OTDOA" depending on the method chosen by the UE.
 - 3> if the IE "Positioning Methods" is set to "CELL ID":
 - 4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and
 - 4> if the UE is in CELL_DCH state:
 - 5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and
 - 5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and
 - 5> report Rx-Tx time difference type 2 measurement of the reference cell (as designated by the UE); and
 - 5> for all reported neighbour cells:

- 6> report Rx-Tx time difference type 2 measurement; and
 - 6> set the IE "SFN-SFN observed time difference type 2" and all IEs within the corresponding IE "UE positioning OTDOA quality" in IE "UE positioning OTDOA measured results" to value "0".
- 2> if the UE is not able to report the requested measurement results:
- 3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.
- 1> if the UE is unable to report the requested measurement results due to missing GPS assistance data:
- 2> the UE may at anytime send a measurement report containing the IE "UE positioning error" and set the contents of this IE as specified in subclause 8.6.7.19.5.
 - 2> after sending the measurement report, the UE shall not send another measurement report to request the same GPS assistance data for at least 20s. This requirement does not apply after release of the current RRC connection.

8.6.7.19.1b UE positioning reporting for UE based methods

The UE shall:

- 1> when a measurement report is triggered:
 - 2> if the UE has been able to calculate a position after performing measurements on the cells included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED in case of OTDOA or the UE has been able to calculate a position in case of GPS positioning:
 - 3> include IE "UE positioning Position Estimate Info" in the MEASUREMENT REPORT and set the contents of the IE as follows:
 - 4> if the UE supports the capability to perform the UE GPS timing of cell frames measurement:
 - 5> if the IE "GPS timing of Cell wanted" is set to TRUE:
 - 6> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.
 - 6> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD;
 - 6> include the SFN when the position was determined;
 - 6> include the IE "UE GPS timing of cell frames".
 - 5> if the IE "GPS timing of Cell wanted" is set to FALSE:
 - 6> include the IE "GPS TOW msec" [and set it to the GPS TOW when the position estimate was valid.](#)
 - 4> if the UE does not support the capability to provide the GPS timing of the cell:
 - 5> include the IE "GPS TOW msec" [and set it to the GPS TOW when the position estimate was valid.](#)
 - 4> if IE "Vertical Accuracy" has been included in IE "UE positioning reporting quantity":
 - 5> if the IE "Vertical Accuracy" has been assigned to value "0":
 - 6> if the IE "Horizontal Accuracy" has been assigned a value "0":

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE <i>Reference Time</i>	MP			
>UTRAN reference time				
>>UE GPS timing of cell frames	MP		Integer(0..37158911999999)	GPS Time of Week in units of 1/16 th UMTS chips according to [19]. 33209832177664 spare values are needed.
>>CHOICE <i>mode</i>	MP			
>>>FDD				
>>>>Primary CPICH Info	MP		Primary CPICH Info 10.3.6.60	Identifies the reference cell for the GPS TOW-SFN relationship.
>>>TDD				
>>>>cell parameters id	MP		Cell parameters id 10.3.6.9	Identifies the reference cell for the GPS TOW-SFN relationship.
>>Reference SFN	MP		Integer(0..4095)	The SFN for which the location is valid. This IE indicates the SFN at which the UE timing of cell frames is captured..
>GPS reference time only				
>>GPS TOW msec	MP		Integer(0..6.048*10 ⁸ -1)	GPS Time of Week in milliseconds (rounded down to the nearest millisecond unit). This time is the GPS TOW measured by the UE.
Measurement Parameters	MP	1 to <maxSat>		
>Satellite ID	MP		Enumerated(0..63)	
>C/N ₀	MP		Integer(0..63)	the estimate of the carrier-to-noise ratio of the received signal from the particular satellite used in the measurement. It is given in units of dB-Hz (typical levels will be in the range of 20 – 50 dB-Hz).
>Doppler	MP		Integer(-32768..32768)	Hz, scale factor 0.2.
>Whole GPS Chips	MP		Integer(0..1022)	Unit in GPS chips.
>Fractional GPS Chips	MP		Integer(0..(2 ¹⁰ -1))	Scale factor 2 ⁻¹⁰
>Multipath Indicator	MP		Enumerated(NM, low, medium, high)	Note 1.
>Pseudorange RMS Error	MP		Enumerated(range index 0..range index 63)	Note 2.

NOTE 1: The following table gives the mapping of the multipath indicator field.

Value	Multipath Indication
NM	Not measured
Low	MP error < 5m
Medium	5m < MP error < 43m
High	MP error > 43m

NOTE 2: The following table gives the bitmapping of the Pseudorange RMS Error field.

Range Index	Mantissa	Exponent	Floating-Point value, x_i	Pseudorange value, P
0	000	000	0.5	$P < 0.5$
1	001	000	0.5625	$0.5 \leq P < 0.5625$
l	X	Y	$0.5 * (1 + x/8) * 2^y$	$x_{i-1} \leq P < x_i$
62	110	111	112	$104 \leq P < 112$
63	111	111	--	$112 \leq P$

CHANGE REQUEST

25.331 CR 2399 # rev # Current version: 5.9.0

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Pending compressed mode reconfigurations		
Source:	# RAN WG2		
Work item code:	# TEI5	Date:	# 16/08/2004
Category:	# F	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# An indentation error was introduced in the compressed mode configuration by CR 2336, agreed in previous meeting.
Summary of change:	# The numbering have been corrected for the compressed mode configuration scenario.
	Isolated Impact Analysis Functionality corrected: Compressed mode. The numbering have been corrected
	<i>Implementation of this CR by a Release 99/4 UE will not cause compatibility issues</i>
Consequences if not approved:	# If not approved, the variable CONFIGURATION_INCOMPLETE will always be set to true in the case of compressed mode configuration. However chances of the UE to misinterprets the specifications in that case are fairly small.

Clauses affected:	# 8.6.6.15				
Other specs affected:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">Y</td> <td style="border: 1px solid black; padding: 2px;">N</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications #	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications #	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;"><input type="checkbox"/></td> <td style="border: 1px solid black; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications #	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Other comments:	#				

How to create CRs using this form:

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

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

8.6.6.15 DPCH Compressed mode info

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

- 1> if the UE, according to its measurement capabilities, and for all supported bands of the UTRA mode or RAT associated with the measurement purpose indicated by IE "TGMP", requires UL compressed mode, and CHOICE 'UL/DL mode' indicates 'DL only':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, and for all supported bands of the UTRA mode or RAT associated with the measurement purpose indicated by IE "TGMP", requires DL compressed mode, and CHOICE 'UL/DL mode' indicates 'UL only':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, does not require UL compressed mode for any of supported band of the UTRA mode or RAT associated with the measurement purpose indicated by the IE "TGMP", and CHOICE 'UL/DL mode' indicates 'UL only' or 'UL and DL':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, does not require DL compressed mode for any supported band of the UTRA mode or RAT associated with the measurement purpose indicated by the IE "TGMP", and CHOICE 'UL/DL mode' indicates 'DL only' or 'UL and DL':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if there is any pending "TGPS reconfiguration CFN" or any pending "TGCFN":
 - 2> the UE behaviour is unspecified.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag") in the variable TGPS_IDENTITY):
 - 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - 3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".
 - 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.

NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.

- 1> update each pattern sequence to the variable TGPS_IDENTITY according to the IE "TGPSI";
- 1> update into the variable TGPS_IDENTITY the configuration information defined by IE group "transmission gap pattern sequence configuration parameters";

- 1> after the instant in which the message is to be executed, as specified in subclause 8.6.3.1:
 - 2> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" in the variable TGPS_IDENTITY is set to "activate" at the time indicated by IE "TGCFN"; and
 - 2> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

NOTE1: If the pattern is activated with a message that includes the IE "Activation time", and if the CFN value indicated by the IE "Activation Time" and the CFN value indicated by the TGCFN are included in the same TTI (but not at the TTI boundary) common to all the transport channels that are multiplexed onto the reference CCTrCh (as defined in subclause 8.6.3.1), and if the CFN value indicated by the TGCFN is equal or higher than the CFN value indicated by the IE "Activation Time" (as defined in subclause 8.6.3.1) value, the UE behaviour is not specified.

NOTE2: If the pattern is activated with a message used to perform timing re-initialised hard handover, the UE can start evaluating the activation of the pattern (i.e. compare the value of the CFN in the new configuration with the value of the TGCFN) at any time between the message activation time and the completion of the synchronisation procedure A.

- 2> if the IE "DPCH compressed mode info" is included in a message used to perform a Hard Handover with change of frequency (see subclause 8.3.5); or
- 2> if the IE "DPCH compressed mode info" is included in a message used to transfer the UE from Cell_FACH to Cell_DCH, and the cell in which the UE transited from CELL_FACH state is not included in the active set for the CELL_DCH state (see subclause 8.4.1.7.2):
 - 3> not begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.
- 2> else:
 - 3> begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.
- 2> begin the inter-RAT measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
- 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":
 - 3> start the concerned pattern sequence immediately at that CFN.

- 1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified in subclause 8.2.11.2.

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

- 1> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IEs "TGMP" and "Current TGPS Status Flag" in variable TGPS_IDENTITY):

2+> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 1> if there is any pending "TGPS reconfiguration CFN" or any pending "TGCFN":

- 2> the UE behaviour is unspecified.

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag" in the variable TGPS_IDENTITY):

- 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use;

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".

2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:

3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.

NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.

1> after the instant in which the message is to be executed, as specified in subclause 8.6.3.1:

2> at the time indicated by IE "TGCFN":

3> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and

NOTE1: If the pattern is activated with a message that includes the IE "Activation time", and if the CFN value indicated by the IE "Activation Time" and the CFN value indicated by the TGCFN are included in the same TTI (but not at the TTI boundary) common to all the transport channels that are multiplexed onto the reference CCTrCh (as defined in subclause 8.6.3.1), and if the CFN value indicated by the TGCFN is equal or higher than the CFN value indicated by the IE "Activation Time" (as defined in subclause 8.6.3.1) value, the UE behaviour is not specified.

NOTE2: If the pattern is activated with a message used to perform timing re-initialised hard handover, the UE can start evaluating the activation of the pattern (i.e. compare the value of the CFN in the new configuration with the value of the TGCFN) at any time between the message activation time and the completion of the synchronisation procedure A.

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

2> if the IE "DPCH compressed mode info" is included in a message used to perform a Hard Handover with change of frequency (see subclause 8.3.5); or

2> if the IE "DPCH compressed mode info" is included in a message used to transfer the UE from Cell_FACH to Cell_DCH, and the cell in which the UE transited from CELL_FACH state is not included in the active set for the CELL_DCH state (see subclause 8.4.1.7.2):

3> not begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.

2> else:

3> begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.2>begin the inter-RAT measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence;

2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":

3> start the concerned pattern sequence immediately at that CFN.

For transmission gap pattern sequences stored in variable TGPS_IDENTITY, but not identified in IE "TGPSI" (either due to the absence of the IE "DPCH compressed mode info" in the received message or due to not receiving the corresponding TGPSI value in the IE "DPCH compressed mode info"), the UE shall:

1> if the received message implies a timing re-initialised hard handover (see subclause 8.3.5.1):

2> deactivate such transmission gap pattern sequences at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message; and

2> set IE "Current TGPS Status Flag" in corresponding UE variable TGPS_IDENTITY to 'inactive'.

1> if the received message not implies a timing re-initialised hard handover (see subclause 8.3.5.1):

2> continue such transmission gap pattern sequence according to IE "Current TGPS Status Flag" in the corresponding UE variable TGPS_IDENTITY.

Uplink and downlink compressed mode methods are described in [27]. For UL "higher layer scheduling" compressed mode method and transport format combination selection, see [15].

CHANGE REQUEST

25.331 CR 2400 # rev # Current version: **6.2.0**

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Pending compressed mode reconfigurations		
Source:	# RAN WG2		
Work item code:	# TEI5	Date:	# 16/08/2004
Category:	# A	Release:	# Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	# An indentation error was introduced in the compressed mode configuration by CR 2337, agreed in previous meeting.
Summary of change:	# The numbering have been corrected for the compressed mode configuration scenario.
	Isolated Impact Analysis Functionality corrected: Compressed mode. The numbering have been corrected
	<i>Implementation of this CR by a Release 99/4 UE will not cause compatibility issues</i>
Consequences if not approved:	# If not approved, the variable CONFIGURATION_INCOMPLETE will always be set to true in the case of compressed mode configuration. However chances of the UE to misinterprets the specifications in that case are fairly small.

Clauses affected:	# 8.6.6.15				
Other specs affected:	#				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Other comments:	#				

How to create CRs using this form:

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

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

8.6.6.15 DPCH Compressed mode info

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

- 1> if the UE, according to its measurement capabilities, and for all supported bands of the UTRA mode or RAT associated with the measurement purpose indicated by IE "TGMP", requires UL compressed mode, and CHOICE 'UL/DL mode' indicates 'DL only':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, and for all supported bands of the UTRA mode or RAT associated with the measurement purpose indicated by IE "TGMP", requires DL compressed mode, and CHOICE 'UL/DL mode' indicates 'UL only':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, does not require UL compressed mode for any of supported band of the UTRA mode or RAT associated with the measurement purpose indicated by the IE "TGMP", and CHOICE 'UL/DL mode' indicates 'UL only' or 'UL and DL':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if the UE, according to its measurement capabilities, does not require DL compressed mode for any supported band of the UTRA mode or RAT associated with the measurement purpose indicated by the IE "TGMP", and CHOICE 'UL/DL mode' indicates 'DL only' or 'UL and DL':
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:
 - 2> set the variable INVALID_CONFIGURATION to TRUE.
- 1> if there is any pending "TGPS reconfiguration CFN" or any pending "TGCFN":
 - 2> the UE behaviour is unspecified.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag") in the variable TGPS_IDENTITY):
 - 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - 3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".
 - 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.

NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.

- 1> update each pattern sequence to the variable TGPS_IDENTITY according to the IE "TGPSI";
- 1> update into the variable TGPS_IDENTITY the configuration information defined by IE group "transmission gap pattern sequence configuration parameters";

- 1> after the instant in which the message is to be executed, as specified in subclause 8.6.3.1:
 - 2> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" in the variable TGPS_IDENTITY is set to "activate" at the time indicated by IE "TGCFN"; and
 - 2> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

NOTE1: If the pattern is activated with a message that includes the IE "Activation time", and if the CFN value indicated by the IE "Activation Time" and the CFN value indicated by the TGCFN are included in the same TTI (but not at the TTI boundary) common to all the transport channels that are multiplexed onto the reference CCTrCh (as defined in subclause 8.6.3.1), and if the CFN value indicated by the TGCFN is equal or higher than the CFN value indicated by the IE "Activation Time" (as defined in subclause 8.6.3.1) value, the UE behaviour is not specified.

NOTE2: If the pattern is activated with a message used to perform timing re-initialised hard handover, the UE can start evaluating the activation of the pattern (i.e. compare the value of the CFN in the new configuration with the value of the TGCFN) at any time between the message activation time and the completion of the synchronisation procedure A.

- 2> if the IE "DPCH compressed mode info" is included in a message used to perform a Hard Handover with change of frequency (see subclause 8.3.5); or
- 2> if the IE "DPCH compressed mode info" is included in a message used to transfer the UE from Cell_FACH to Cell_DCH, and the cell in which the UE transited from CELL_FACH state is not included in the active set for the CELL_DCH state (see subclause 8.4.1.7.2):
 - 3> not begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.
- 2> else:
 - 3> begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.
- 2> begin the inter-RAT measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
- 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":
 - 3> start the concerned pattern sequence immediately at that CFN.

- 1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified in subclause 8.2.11.2.

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

- 1> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IEs "TGMP" and "Current TGPS Status Flag" in variable TGPS_IDENTITY):

2+> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 1> if there is any pending "TGPS reconfiguration CFN" or any pending "TGCFN":

- 2> the UE behaviour is unspecified.

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag" in the variable TGPS_IDENTITY):

- 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use;

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "inactive".

2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:

3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.

NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.

1> after the instant in which the message is to be executed, as specified in subclause 8.6.3.1:

2> at the time indicated by IE "TGCFN":

3> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and

NOTE1: If the pattern is activated with a message that includes the IE "Activation time", and if the CFN value indicated by the IE "Activation Time" and the CFN value indicated by the TGCFN are included in the same TTI (but not at the TTI boundary) common to all the transport channels that are multiplexed onto the reference CCTrCh (as defined in subclause 8.6.3.1), and if the CFN value indicated by the TGCFN is equal or higher than the CFN value indicated by the IE "Activation Time" (as defined in subclause 8.6.3.1) value, the UE behaviour is not specified.

NOTE2: If the pattern is activated with a message used to perform timing re-initialised hard handover, the UE can start evaluating the activation of the pattern (i.e. compare the value of the CFN in the new configuration with the value of the TGCFN) at any time between the message activation time and the completion of the synchronisation procedure A.

3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to "active".

2> if the IE "DPCH compressed mode info" is included in a message used to perform a Hard Handover with change of frequency (see subclause 8.3.5); or

2> if the IE "DPCH compressed mode info" is included in a message used to transfer the UE from Cell_FACH to Cell_DCH, and the cell in which the UE transited from CELL_FACH state is not included in the active set for the CELL_DCH state (see subclause 8.4.1.7.2):

3> not begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.

2> else:

3> begin the inter-frequency measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence.2>begin the inter-RAT measurement reporting corresponding to the pattern sequence measurement purpose of each activated pattern sequence;

2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":

3> start the concerned pattern sequence immediately at that CFN.

For transmission gap pattern sequences stored in variable TGPS_IDENTITY, but not identified in IE "TGPSI" (either due to the absence of the IE "DPCH compressed mode info" in the received message or due to not receiving the corresponding TGPSI value in the IE "DPCH compressed mode info"), the UE shall:

1> if the received message implies a timing re-initialised hard handover (see subclause 8.3.5.1):

2> deactivate such transmission gap pattern sequences at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message; and

2> set IE "Current TGPS Status Flag" in corresponding UE variable TGPS_IDENTITY to 'inactive'.

1> if the received message not implies a timing re-initialised hard handover (see subclause 8.3.5.1):

2> continue such transmission gap pattern sequence according to IE "Current TGPS Status Flag" in the corresponding UE variable TGPS_IDENTITY.

Uplink and downlink compressed mode methods are described in [27]. For UL "higher layer scheduling" compressed mode method and transport format combination selection, see [15].