# TSG-RAN Meeting #21 Frankfurt, Germany, 16-19 September 2003

Title: CRs (R'99 and linked Rel-4/Rel-5) to <u>TS 25.331</u> (2)

Source: TSG-RAN WG2

Agenda item: 7.3.3

CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
2013	-	R99	Corrections for TDD for the IEs "Downlink DPCH info common for all radio links"	F	3.15.0	3.16.0	R2-031907	TEI
2014	-	Rel-4	Corrections for TDD for the IEs "Downlink DPCH info common for all radio links"	Α	4.10.0	4.11.0	R2-031908	TEI
2015	-	Rel-5	Corrections for TDD for the IEs "Downlink DPCH info common for all radio links"	Α	5.5.0	5.6.0	R2-031909	TEI
2016	-	R99	TFCS selection guidelines for TFC Subset	F	3.15.0	3.16.0	R2-031910	TEI
2017	-	Rel-4	TFCS selection guidelines for TFC Subset	Α	4.10.0	4.11.0	R2-031911	TEI
2018	-	Rel-5	TFCS selection guidelines for TFC Subset	Α	5.5.0	5.6.0	R2-031912	TEI
2023	-	R99	Value range of UE Rx-Tx time difference type 2 measurement	F	3.15.0	3.16.0	R2-031919	TEI
2024	-	Rel-4	Value range of UE Rx-Tx time difference type 2 measurement	Α	4.10.0	4.11.0	R2-031920	TEI
2025	-	Rel-5	Value range of UE Rx-Tx time difference type 2 measurement	Α	5.5.0	5.6.0	R2-031921	TEI
2031	1	R99	Activation Time for DSCH	F	3.15.0	3.16.0	R2-031972	TEI
2032	1	Rel-4	Activation Time for DSCH	Α	4.10.0	4.11.0	R2-031973	TEI
2033	-	Rel-5	Activation Time for HS-DSCH	F	5.5.0	5.6.0	R2-031940	HSDPA-L23
2036	1	R99	START value calculation for RLC size change	F	3.15.0	3.16.0	R2-032049	TEI
2037	1	Rel-4	START value calculation for RLC size change	Α	4.10.0	4.11.0	R2-032050	TEI
2042	-	R99	Correction of PDCP Configuration for RFC 2507	F	3.15.0	3.16.0	R2-031960	TEI
2043	-	Rel-4	Correction of PDCP Configuration for RFC 2507	Α	4.10.0	4.11.0	R2-031961	TEI
2044	-	Rel-5	Correction of PDCP Configuration for RFC 2507	F	5.5.0	5.6.0	R2-031962	TEI

## 3GPP TSG-RAN WG2 Meeting #37 BudaPest, Hungary, 25<sup>th</sup> – 29<sup>th</sup> August 2003

	Cł	HANGE REQ	CR-Form-	v7
ж	25.331 CR	2013	# Current version: 3.15.0   #	

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

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

Title:	Ж	Со	rrections for TDD for the IEs "Do	wnlink DPCH i	nfo common	for all radio links"
Source:	Ж	RA	N WG2			
Work item code.	:₩	TE	l		Date: ₩	25 <sup>th</sup> August 2003
Category:	Ж	F			Release: #	R99
		Use	one of the following categories:		Use <u>one</u> of	the following releases:
			<b>F</b> (correction)		2	(GSM Phase 2)
			A (corresponds to a correction in a	n earlier release	) R96	(Release 1996)
			<b>B</b> (addition of feature),			(Release 1997)
			C (functional modification of feature	e)		(Release 1998)
			<b>D</b> (editorial modification)			(Release 1999)
			iled explanations of the above cated	gories can		(Release 4)
		be fo	ound in 3GPP <u>TR 21.900</u> .			(Release 5)
					Rel-6	(Release 6)

- Reason for change: # 1.The IE 'Common Timeslot info' was removed by CR909 (R2-012045) from the tabular and ASN1 representations of the IE 'Downlink DPCH info common for all radio links' but the action to be performed for this IE is still described in 8.6.6.28. It is proposed that this description is removed.
  - 2. The action to be performed if the IE 'Downlink DPCH power control information' is present relates only to FDD. It is proposed that it should be indicated that the IE 'DPCH Mode' relates only to FDD and that the action for TDD should be added.

- Summary of change: # 1. The description relating to the IE 'Common Timeslot info' is removed from section 8.6.6.28.
  - 2. A change in the text of 8.6.6.28 is made to indicate that the current description for the IE 'Downlink DPCH power control information' relates to FDD and a description for TDD is added.

#### **Isolated Impact Change Analysis**

This change corrects the power control functionality for DPCH in TDD. This change affects UE and UTRAN implementations.

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

#### Impact on Test Specifications

There is no impact on the test specifications.

#### Consequences if not approved:

# The description of UE actions for the IE 'Downlink DPCH info common for all radio links' will be erroneous and the TPC step size for power control cannot be

	configured.
Clauses affected:	<b>₩</b> 8.6.6.28
	YN
Other specs affected:	X Other core specifications X Test specifications O&M Specifications
Other comments:	光 

#### How to create CRs using this form:

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

#### 8.6.6.28 Downlink DPCH info common for all radio links

If the IE "Downlink DPCH info common for all RL" is included the UE shall:

- 1> if the IE "Downlink DPCH info common for all RL" is included in a message used to perform a hard handover:
  - 2> perform actions for the IE "Timing indication" as specified in subclause 8.5.15.2, and subclause 8.3.5.1 or 8.3.5.2.
- 1> ignore the value received in IE "CFN-targetSFN frame offset";
- 1> if the IE "Downlink DPCH power control information" is included:
  - 2> in the case of FDD:
    - 3> perform actions for the IE "DPC Mode" according to [29].
  - 2> in the case of TDD:
    - 3> perform actions for the IE "TPC Step Size" according to [33].
- 1> if the IE choice "mode" is set to 'FDD':
  - 2> if the IE "Downlink rate matching restriction information" is included:
    - 3> set the variable INVALID\_CONFIGURATION to TRUE.
  - 2> perform actions for the IE "spreading factor";
  - 2> perform actions for the IE "Fixed or Flexible position";
  - 2> perform actions for the IE "TFCI existence";
  - 2> if the IE choice "SF" is set to 256:
    - 3> store the value of the IE "Number of bits for pilot bits".
  - 2> if the IE choice "SF" set to 128:
    - 3> store the value of the IE "Number of bits for pilot bits".
- 1> if the IE choice "mode" is set to 'TDD':
  - 2> perform actions for the IE "Common timeslot info".

If the IE "Downlink DPCH info common for all RL" is included in a message used to perform a Timing re-initialised hard handover or the IE "Downlink DPCH info common for all RL" is included in a message other than RB SETUP used to transfer the UE from a state different from Cell\_DCH to Cell\_DCH, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

- 1> if any ciphering configuration for a radio bearer using RLC-TM has not been applied, due to that the activation time from a previous procedure has not elapsed:
  - 2> apply the ciphering configuration immediately and consider the activation time from the previous procedure to be elapsed.
- 1> set the 20 MSB of the HFN component of COUNT-C for TM-RLC to the value of the latest transmitted IE "START" or "START List" for this CN domain, while not incrementing the value of the HFN component of COUNT-C at each CFN cycle; and
- 1> set the remaining LSBs of the HFN component of COUNT-C to zero;
- 1> start to perform ciphering on the radio bearer in lower layers while not incrementing the HFN;

- 1> include the IE "COUNT-C activation time" in the response message and specify a CFN value for this IE other than the default, "Now", that is a multiple of 8 frames (CFN mod 8 =0) and lies at least 200 frames ahead of the CFN in which the response message is first transmitted;
- 1> calculate the START value according to subclause 8.5.9;
- 1> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the response message;
- 1> at the CFN value as indicated in the response message in the IE "COUNT-C activation time":
  - 2> set the 20 MSB of the HFN component of the COUNT-C variable common for all transparent mode radio bearers of this CN domain to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and
  - 2> set the remaining LSBs of the HFN component of COUNT-C to zero;
  - 2> increment the HFN component of the COUNT-C variable by one even if the "COUNT-C activation time" is set to zero:
  - 2> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;
  - 2> step the COUNT-C variable, as normal, at each CFN value, i.e. the HFN component is no longer fixed in value but incremented at each CFN cycle.

Budapest, Hungary, 25 – 29 August 2003									
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#### 8.6.6.28 Downlink DPCH info common for all radio links

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  - 2> perform actions for the IE "Timing indication" as specified in subclause 8.5.15.2, and subclause 8.3.5.1 or 8.3.5.2.
- 1> ignore the value received in IE "CFN-targetSFN frame offset";
- 1> if the IE "Downlink DPCH power control information" is included:
  - 2> in the case of FDD:
    - 3> perform actions for the IE "DPC Mode" according to [29].
  - 2> in the case of TDD:
    - 3> perform actions for the IE "TPC Step Size" according to [33].
- 1> if the IE choice "mode" is set to 'FDD':
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  - 2> perform actions for the IE "Fixed or Flexible position";
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  - 2> apply the ciphering configuration immediately and consider the activation time from the previous procedure to be elapsed;
- 1> if the IE "MAC-d HFN initial value" is included in the IE "Downlink DPCH info common for all RL":
  - 2> set the HFN component of COUNT-C for TM-RLC to the value of the IE "MAC-d HFN initial value", while not incrementing the value of the HFN component of COUNT-C at each CFN cycle.
- NOTE: The UTRAN should choose a value for the IE "MAC-d HFN initial value" using the COUNT-C value of the RBs using RLC-TM indicated by the Source RNC to the Target RNC in the IE "SRNS Relocation Info" and include some margin in such a way that no values of COUNT-C are repeated after the handover.

1> else:

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- 1> calculate the START value according to subclause 8.5.9;
- 1> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the response message;
- 1> at the CFN value as indicated in the response message in the IE "COUNT-C activation time":
  - 2> set the 20 MSB of the HFN component of the COUNT-C variable common for all transparent mode radio bearers of this CN domain to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and
  - 2> set the remaining LSBs of the HFN component of COUNT-C to zero;
  - 2> increment the HFN component of the COUNT-C variable by one even if the "COUNT-C activation time" is equal to zero;
  - 2> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;
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## 3GPP TSG-RAN WG2 Meeting #37 Budapest, Hungary, 25<sup>th</sup> – 29<sup>th</sup> August 2003

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    - 3> perform actions for the IE "TPC Step Size" according to [33].
- 1> if the IE choice "mode" is set to 'FDD':
  - 2> if the IE "Downlink rate matching restriction information" is included:
    - 3> set the variable INVALID\_CONFIGURATION to TRUE.
  - 2> perform actions for the IE "spreading factor";
  - 2> perform actions for the IE "Fixed or Flexible position";
  - 2> perform actions for the IE "TFCI existence";
  - 2> if the IE choice "SF" is set to 256:
    - 3> store the value of the IE "Number of bits for pilot bits".
  - 2> if the IE choice "SF" set to 128:
    - 3> store the value of the IE "Number of bits for pilot bits".
- 1> if the IE choice "mode" is set to 'TDD':
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If the IE "Downlink DPCH info common for all RL" is included in a message used to perform a Timing re-initialised hard handover or the IE "Downlink DPCH info common for all RL" is included in a message other than RB SETUP used to transfer the UE from a state different from Cell\_DCH to Cell\_DCH, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

- 1> if any ciphering configuration for a radio bearer using RLC-TM has not been applied, due to that the activation time from a previous procedure has not elapsed:
  - 2> apply the ciphering configuration immediately and consider the activation time from the previous procedure to be elapsed;
- 1> if the IE "MAC-d HFN initial value" is included in the IE "Downlink DPCH info common for all RL":
  - 2> set the HFN component of COUNT-C for TM-RLC to the value of the IE "MAC-d HFN initial value", while not incrementing the value of the HFN component of COUNT-C at each CFN cycle.
- NOTE: The UTRAN should choose a value for the IE "MAC-d HFN initial value" using the COUNT-C value of the RBs using RLC-TM indicated by the Source RNC to the Target RNC in the IE "SRNS Relocation Info" and include some margin in such a way that no values of COUNT-C are repeated after the handover.

1> else:

- 2> set the 20 MSB of the HFN component of COUNT-C for TM-RLC to the value of the latest transmitted IE "START" or "START List" for this CN domain, while not incrementing the value of the HFN component of COUNT-C at each CFN cycle; and
- 2> set the remaining LSBs of the HFN component of COUNT-C to zero.
- 1> start to perform ciphering on the radio bearer in lower layers while not incrementing the HFN;
- 1> include the IE "COUNT-C activation time" in the response message and specify a CFN value for this IE other than the default, "Now", that is a multiple of 8 frames (CFN mod 8 =0) and lies at least 200 frames ahead off the CFN in which the response message is first transmitted;
- 1> calculate the START value according to subclause 8.5.9;
- 1> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the response message;
- 1> at the CFN value as indicated in the response message in the IE "COUNT-C activation time":
  - 2> set the 20 MSB of the HFN component of the COUNT-C variable common for all transparent mode radio bearers of this CN domain to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and
  - 2> set the remaining LSBs of the HFN component of COUNT-C to zero;
  - 2> increment the HFN component of the COUNT-C variable by one even if the "COUNT-C activation time" is equal to zero;
  - 2> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;
  - 2> step the COUNT-C variable, as normal, at each CFN value, i.e. the HFN component is no longer fixed in value but incremented at each CFN cycle.

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Other co	mments:	æ										

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 8.6.5.2 Transport format combination set

If the IE "Transport format combination set" is included, the UE shall for that direction (uplink or downlink):

- 1> store the new transport format combination set, or (if this exists) modify a previously stored transport format combination set according to IEs included in IE "Transport format combination set";
- 1> start to respect those transport format combinations;
- 1> if IE "Transport format combination subset" is received in this message:
  - 2> perform the actions as specified in subclause 8.6.5.3.
- 1> if IE "Transport format combination subset" is not received in this message:
  - 2> clear the IE "Duration" in the variable TFC\_SUBSET;
  - 2> set both the IE "Current TFC subset" and the IE "Default TFC subset" in the variable TFC\_SUBSET to the value indicating "full transport format combination set".

If the IE "Transport format combination set" is not included and if there is no addition, removal or reconfiguration of transport channels, the UE shall for that direction (uplink or downlink):

1> use a previously stored transport format combination set if this exists.

If the IE "Transport format combination set" is not included; and

- 1> if no transport format combination set is stored in the UE; or
- 1> if transport channels are added or removed in the message; or
- 1> if any transport channel is reconfigured in the message such that the size of the transport format set is changed: the UE shall:
  - 1> set the variable INVALID\_CONFIGURATION to TRUE.

In the uplink TFCS the minimum set of TFCs is the set of TFCs that is needed for the TFC selection algorithm defined in [15] to give a predictable result. This set should always be included in the TFCS, and its use should never be restricted using the IE "TFC Subset". The minimum set of TFCs consists of the following:

- 1> for each UM logical channel for which traffic is generated:
  - 2> a TFC with one transport block for this transport channel and empty TFs (see [34]) for all the others. If more than one TFC fulfils this criteria, only the TFC with the lowest number of bits should be included in the minimum set of TFCs.
- 1> for each AM logical channel for which traffic is generated:
  - 2> a TFC with a non-empty TF for the corresponding transport channel and empty TFs for all other transport channels, where the non-empty TF includes one transport block with "Configured RLC Size" equal to the RLC PDU size.
- 1> for each set of "synchronous" TM logical channels (see the definition below) for which traffic is generated and for each set of SDU sizes associated with it:
  - 2> a TFC with TFs corresponding to any combination of SDU sizes that can be received in a TTI from higher layers on the corresponding transport channels and empty TFs for all other transport channels.
- 1> for each TM logical channel that is not part of a set of "synchronous" TM logical channels (see the definition below) for which traffic is generated:
  - 2> a TFC with non-empty TFs for the corresponding transport channel, and empty TFs for all other transport channels, where
    - 3> for non-segmented mode TM-RLC logical channels the non-empty TFs include, for the smallest SDU size that can be received in a single TTI from higher layer:

- 4> a TF with non-zero number of transport blocks with "Configured RLC Size" equal to the corresponding SDU size. If more than one TFC fulfils this criteria, only the TFC with the lowest number of bits in the TFC is included in the minimum set of TFCs.
- 3> for segmented mode TM-RLC, the non-empty TFs include any TF such that the number of transport blocks multiplied by the "Configured RLC Size" is equal to the smallest SDU size that can be received in a single TTI from higher layer.
- 1> an "empty" TFC (see [34]).

Furthermore, the UTRAN should ensure that the uplink TFCS <u>and any configured TFC Subset</u> satisfies the following rules:

- 1> for each TTI length with which at least one transport channel is configured:
  - 2> for each combination of TFs for the transport channels configured with this TTI length included in the TFCS:
    - 3> a TFC with these TFs for the transport channels configured with this TTI length and empty TFs on all transport channels configured with shorter TTI lengths is also included in the TFCS.

For TDD, the TFCS of a CCTrCH should include those of the above combinations, which include a TF with one transport block for a transport channel used in that CCTrCH, and the "empty" TFC should be included in the TFCS of every CCTrCH.

Synchronous TM logical channels are logical channels on which higher layer traffic is generated in a perfectly correlated fashion (e.g. AMR RAB).

NOTE: The "Configured RLC Size" is defined as the transport block size minus the MAC header size.

#### 8.6.5.3 Transport format combination subset

When configuring a TFC Subset, the UTRAN should follow the guidelines defined in section 8.6.5.2.

If the IE "Transport format combination subset" ("TFC subset") is included, the UE shall:

- 1> if the IE "Minimum allowed Transport format combination index" is included; and
  - 2> if the value of the IE "Minimum allowed Transport format combination index" is greater than the highest TFCI value in the current transport format combination set:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Allowed transport format combination list" is included; and
  - 2> if the value of any of the IEs "Allowed transport format combination" included in the IE "Allowed transport format combination list" does not match a TFCI value in the current transport format combination set:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Non-allowed transport format combination list" is included; and
  - 2> if the value of any of the IEs "Non-allowed transport format combination" included in the IE "Non-allowed transport format combination list" does not match a TFCI value in the current transport format combination set:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Restricted TrCH information" is included:
  - 2> if the value of any of the IEs "Uplink transport channel type" and "Restricted UL TrCH identity" included in the IE "Restricted TrCH information" do not correspond to any of the transport channels for which the current transport format combination set is valid:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.

- 2> if the IE "Allowed TFIs" is included; and
  - 3> if the value of each of the IEs "Allowed TFI" included in the IE "Allowed TFIs" corresponds to a transport format for that transport channel within the current transport format combination set:
    - 4> allow all transport format combinations that include these transport formats for the transport channel;
    - 4> restrict all other transport format combinations.
  - 3> else:
    - 4> consider the TFC subset to be incompatible with the current transport format combination set.
- 2> if the IE "Allowed TFIs" is not included:
  - 3> restrict all transport format combinations where the transport channel has a transport format of non-zero rate
- 1> if the UE considers the TFC subset to be incompatible with the current Transport format combination set according to the above:
  - 2> keep any previous restriction of the transport format combination set;
  - 2> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the UE does not consider the TFC subset to be incompatible with the current Transport format combination set according to the above:
  - 2> restrict the transport format combination set in the uplink to the value of the IE "Transport format combination subset" (in case of TDD for the uplink CCTrCH specified by the IE "TFCS Id");
  - 2> clear the IE "Duration" in the variable TFC\_SUBSET.
- 1> if the transport format combination subset indicates the "full transport format combination set":
  - 2> any restriction on transport format combination set is released and the UE may use the full transport format combination set.

### 3GPP TSG-RAN2 Meeting #37 Budapest, Hungary, 25/08/2003

	CHANGE REQUEST	CR-Form-v7
*	25.331 CR 2017 ** rev - **	Current version: 4.10.0 **
For <u>HELP</u> on us	ing this form, see bottom of this page or look at the	pop-up text over the <b>%</b> symbols.
Proposed change a	ffects: UICC apps# ME Radio Acc	cess Network X Core Network
Title: ₩	TFCS selection guidelines for TFC Subset	
Source: #	RAN WG2	
Work item code: 第	TEI	Date: ₩ 25/08/2003
Category: 第	A	Release: % Rel-4
	Use one of the following categories:  F (correction)  A (corresponds to a correction in an earlier release)  B (addition of feature),  C (functional modification of feature)  D (editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.  ** The current specification is not clear about whe guidelines apply to TFC subsets.  It was clarified that the TFCS selection guidelines are also added in the section on	Use one of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)  mether the TFCS selection  ines do apply to TFC subsets.
Consequences if	consistency.  ** Network manufacturers may remain unclear a	about the types of TFC subsets that
not approved:	can be configured reliably.	
Clauses affected:	₩ 8.6.5.2	
Other specs affected:	Y N  X Other core specifications Test specifications O&M Specifications	
Other comments:	<b></b>	

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- 1> start to respect those transport format combinations;
- 1> if IE "Transport format combination subset" is received in this message:
  - 2> perform the actions as specified in subclause 8.6.5.3.
- 1> if IE "Transport format combination subset" is not received in this message:
  - 2> clear the IE "Duration" in the variable TFC\_SUBSET;
  - 2> set both the IE "Current TFC subset" and the IE "Default TFC subset" in the variable TFC\_SUBSET to the value indicating "full transport format combination set".

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    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Allowed transport format combination list" is included; and
  - 2> if the value of any of the IEs "Allowed transport format combination" included in the IE "Allowed transport format combination list" does not match a TFCI value in the current transport format combination set:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Non-allowed transport format combination list" is included; and
  - 2> if the value of any of the IEs "Non-allowed transport format combination" included in the IE "Non-allowed transport format combination list" does not match a TFCI value in the current transport format combination set:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.
- 1> if the IE "Restricted TrCH information" is included:
  - 2> if the value of any of the IEs "Uplink transport channel type" and "Restricted UL TrCH identity" included in the IE "Restricted TrCH information" do not correspond to any of the transport channels for which the current transport format combination set is valid:
    - 3> consider the TFC subset to be incompatible with the current transport format combination set.

- 2> if the IE "Allowed TFIs" is included; and
  - 3> if the value of each of the IEs "Allowed TFI" included in the IE "Allowed TFIs" corresponds to a transport format for that transport channel within the current transport format combination set:
    - 4> allow all transport format combinations that include these transport formats for the transport channel;
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- 1> if the UE considers the TFC subset to be incompatible with the current Transport format combination set according to the above:
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- 1> if the UE does not consider the TFC subset to be incompatible with the current Transport format combination set according to the above:
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### 3GPP TSG-RAN2 Meeting #37 Budapest, Hungary, 25/08/2003

		CH	IANGE	REQ	JES	Т			CR-Form-v7
*	25.33	31 CR	2018	жrev	<b>-</b> #	Current ve	ersion:	5.5.0	*
For <u>HELP</u> on us	sing this	form, see bo	ottom of this	page or l	ook at	the pop-up te	ext over	the <b>%</b> syr	nbols.
Proposed change a	nffects:	UICC app	s# <mark></mark>	ME	Radio	Access Netv	vork X	Core Ne	etwork
Title: %	TFCS	selection gui	delines for T	FC Subs	et				
Source: #	RAN V	VG2							
Work item code: ₩	TEI					Date:	<b>%</b> 25/	08/2003	
	F (A) (B) (C) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	e of the following correction) (corresponds to addition of featfunctional modifications and a superiorial modifications and a superiorial modifications and a superiorial modifications and a superiorial modification an	o a correction ture), dification of feication) of the above of the abo	in an earl ature) categories s not clea absets.	can r abou	2 ase) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	of the for (GSA) (Relection (Rele	Mowing release 1996) Phase 1996) Plase 1997) Plase 1998) Plase 1999) Plase 4) Plase 5) Plase 6)  Selection	
		reference was	as also adde	ed in the s	ection	on TFC subs	set in or	der to imp	orove
Consequences if not approved:		etwork manu an be configu			uncle	ar about the t	ypes of	TFC subs	sets that
Clauses affected:		.6.5.2							
Other specs affected:	¥ Y	N X Other co	re specifica cifications ecifications	tions	*				
Other comments:	*								

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## 3GPP TSG-RAN WG2 Meeting #37 Budapest, Hungary, 25-29 August 2003

	CHANGE REQUEST
*	25.331 CR 2023
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the % symbols.
Proposed change a	affects: UICC appsЖ ME X Radio Access Network X Core Network ☐
Title: #	Value range of UE Rx-Tx time difference type 2 measurement
Source: #	RAN WG2
Work item code: 第	TEI Date: # 18/08/2003
	F Use one of the following categories:  F (correction)  A (corresponds to a correction in an earlier release)  B (addition of feature),  C (functional modification of feature)  P (editorial modification)  D (editorial modification)  P (Release 1999)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.  E 25.331 incorrectly defines how to calculate the actual value of the UE Rx-Tx time difference type 2 measurement report. The mapping is specified in 25.133 and hence a
Summary of chang	reference to 25.133 should be added in 25.331.  The mapping of the reported value to the actual value is specified by referring to 25.133.  Isolated Impact Analysis Functionality corrected: UE Rx-Tx time difference type 2 measurement Correction to a function where specification was containing a contradiction with another specification.
Consequences if not approved:	# The specification remains ambiguous on how to interpret the reported value of the measurement.
Clauses affected:	<b>%</b> 10.3.7.84, 11.3
Other specs affected:	Y N  X Other core specifications X Test specifications O&M Specifications
Other comments:	lpha

### How to create CRs using this form:

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

## 10.3.7.84 UE Rx-Tx time difference type 2

The difference in time between the UE uplink DPCCH/DPDCH frame transmission and the first detected path (in time), of the downlink DPCH frame from the measured radio link.

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
UE Rx-Tx time difference type 2	MP		<u>Integer</u>	According to [19]. Resolution of
			(08191)Rea	<del>1/16 of a chip.</del>
			<del>1(768.0</del>	·
			1279.9375	
			by step of	
			<del>0.0625)</del>	

# 11.3 Information element definitions

- Actual value UE RX TX TimeDifferenceType2 = IE value \* 0.0625 + 76
UE-RX-TX-TimeDifferenceType2 ::= INTEGER (0..8191)

#### For information:

### 25.133: 9.1.9.2.2 UE Rx-Tx time difference type 2 measurement report mapping

The reporting range is for UE Rx-Tx time difference type2 is from 768 ... 1280 chip.

In table 9.28 the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

**Table 9.28** 

Reported value	Measured quantity value			
RX-TX_TIME _0000	UE Rx-Tx Time difference type 2 < 768.000	chip		
RX-TX_TIME _0001	768.000 ≤ UE Rx-Tx Time difference type 2 < 768.0625	chip		
RX-TX_TIME_0002	768.0625 ≤ UE Rx-Tx Time difference type 2 < 768.1250	chip		
RX-TX_TIME_0003	768.1250 ≤ UE Rx-Tx Time difference type 2 < 768.1875	chip		
RX-TX_TIME_8189	1279.7500 ≤ UE Rx-Tx Time difference type 2 < 1279.8125	chip		
RX-TX_TIME_8190	1279.8125 ≤ UE Rx-Tx Time difference type 2 < 1279.8750	chip		
RX-TX_TIME_8191	1279.8750 ≤ UE Rx-Tx Time difference type 2	chip		

## 3GPP TSG-RAN WG2 Meeting #37 Budapest, Hungary, 25-29 August 2003

CHANGE REQUEST														
ж		25	.331	CR	2024		⊭rev	-	ж	Curre	nt vers	sion:	4.10.	<b>0</b> #
For <u>F</u>	For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>%</b> symbols.									ymbols.				
Proposed change affects: UICC apps% ME X Radio Access Network Core Network														
Title:	9	<b>€</b> Val	ue rar	ige of l	JE Rx-Tx	time o	differenc	e type	e 2 n	neasure	ement			
Source:	9	<b>€</b> RA	N WG	2										
Work ite	em code: 8	€ TE	l							Da	ate: ೫	18/0	08/2003	
	for chang	Deta be fo	F (cor A (cor B (add C (fur D (edd illed ex bund in  25.33 differe referer  The 25.1 Isoli Fund Corr	rection) respondition of octional interial mplanatic agpendition of the control o	ds to a confective, modification of the attention of the	rrection on of fe n) above o nes how urement ould be a reporter allysis ted: UE	in an ea ature) categorie v to calcut t report. V added in ed value	s can	ne act	2 e) R R R R R R R R tual valual significations are removed types  rence types	one of 1996 1997 1998 1999 1991 1991 1991 1991 1991	the for (GSM) (Relead	llowing ref 1 Phase 2 ase 1996 ase 1997 ase 1998 ase 4) ase 5) ase 6) Rx-Tx tin 133 and h	me nence a
Consequence not appli	uences if roved:	*			cation rer ement.	mains a	ambigud	ous or	n hov	w to int	erpret	the re	ported v	alue of
Clauses	affected:	æ	10.3	.7.84,	11.3									
Other spaffected		ж	Y N X X	Test	r core spe specificat Specifica	tions	iions	¥						
Other co	omments:	æ												

### **How to create CRs using this form:**

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

## 10.3.7.84 UE Rx-Tx time difference type 2

The difference in time between the UE uplink DPCCH/DPDCH frame transmission and the first detected path (in time), of the downlink DPCH frame from the measured radio link.

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
UE Rx-Tx time difference type 2	MP		<u>Integer</u>	According to [19]. Resolution of
			(08191)Rea	<del>1/16 of a chip.</del>
			<del>1(768.0</del>	·
			1279.9375	
			by step of	
			<del>0.0625)</del>	

## 11.3 Information element definitions

- Actual value UE RX TX TimeDifferenceType2 = IE value \* 0.0625 + 76
UE-RX-TX-TimeDifferenceType2 ::= INTEGER (0..8191)

#### For information:

### 25.133: 9.1.9.2.2 UE Rx-Tx time difference type 2 measurement report mapping

The reporting range is for UE Rx-Tx time difference type2 is from 768 ... 1280 chip.

In table 9.28 the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

**Table 9.28** 

Reported value	Measured quantity value	Unit
RX-TX_TIME _0000	UE Rx-Tx Time difference type 2 < 768.000	chip
RX-TX_TIME _0001	768.000 ≤ UE Rx-Tx Time difference type 2 < 768.0625	chip
RX-TX_TIME _0002	768.0625 ≤ UE Rx-Tx Time difference type 2 < 768.1250	chip
RX-TX_TIME _0003	768.1250 ≤ UE Rx-Tx Time difference type 2 < 768.1875	chip
RX-TX_TIME_8189	1279.7500 ≤ UE Rx-Tx Time difference type 2 < 1279.8125	chip
RX-TX_TIME_8190	1279.8125 ≤ UE Rx-Tx Time difference type 2 < 1279.8750	chip
RX-TX_TIME_8191	1279.8750 ≤ UE Rx-Tx Time difference type 2	chip

### 3GPP TSG-RAN WG2 Meeting #37 **Budapest, Hungary, 25-29 August 2003**

	CHANGE REQUEST
*	25.331 CR 2025
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the pop-up text over the % symbols.
Proposed change a	ME X Radio Access Network X Core Network
Title: #	Value range of UE Rx-Tx time difference type 2 measurement
Source: #	RAN WG2
Work item code: 第	TEI Date: # 18/08/2003
	25.133. Isolated Impact Analysis
	Functionality corrected: UE Rx-Tx time difference type 2 measurement Correction to a function where specification was containing a contradiction with another specification.
Consequences if not approved:	<b>X</b> The specification remains ambiguous on how to interpret the reported value of the measurement.
Clauses affected:	<b>%</b> 10.3.7.84, 11.3
Other specs affected:	Y N  X Other core specifications
Other comments:	<b>₩</b>

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

## 10.3.7.84 UE Rx-Tx time difference type 2

The difference in time between the UE uplink DPCCH/DPDCH frame transmission and the first detected path (in time), of the downlink DPCH frame from the measured radio link.

Information Element/Group	Need	Multi	Type and	Semantics description
name			reference	
UE Rx-Tx time difference type 2	MP		<u>Integer</u>	According to [19]. Resolution of
			(08191)Rea	<del>1/16 of a chip.</del>
			<del>1(768.0</del>	·
			1279.9375	
			by step of	
			<del>0.0625)</del>	

## 11.3 Information element definitions

- Actual value UE RX TX TimeDifferenceType2 = IE value \* 0.0625 + 76
UE-RX-TX-TimeDifferenceType2 ::= INTEGER (0..8191)

#### For information:

### 25.133: 9.1.9.2.2 UE Rx-Tx time difference type 2 measurement report mapping

The reporting range is for UE Rx-Tx time difference type2 is from 768 ... 1280 chip.

In table 9.28 the mapping of measured quantity is defined. The range in the signalling may be larger than the guaranteed accuracy range.

**Table 9.28** 

Reported value	Measured quantity value	Unit
RX-TX_TIME _0000	UE Rx-Tx Time difference type 2 < 768.000	chip
RX-TX_TIME _0001	768.000 ≤ UE Rx-Tx Time difference type 2 < 768.0625	chip
RX-TX_TIME _0002	768.0625 ≤ UE Rx-Tx Time difference type 2 < 768.1250	chip
RX-TX_TIME _0003	768.1250 ≤ UE Rx-Tx Time difference type 2 < 768.1875	chip
RX-TX_TIME_8189	1279.7500 ≤ UE Rx-Tx Time difference type 2 < 1279.8125	chip
RX-TX_TIME_8190	1279.8125 ≤ UE Rx-Tx Time difference type 2 < 1279.8750	chip
RX-TX_TIME_8191	1279.8750 ≤ UE Rx-Tx Time difference type 2	chip

## 3GPP TSG-RAN2 Meeting #37 Budapest, Hungary, 25<sup>th</sup> August 2003

	CHAN	GE REQUEST		CR-Form-v/
ж <b>2</b>	5.331 CR 2031	#rev 1 *	Current version:	3.f.0 **
For <u>HELP</u> on usin	g this form, see bottom o	f this page or look at th	e pop-up text over	the <b>%</b> symbols.
Proposed change affe	,, <u> </u>		ccess Network X	Core Network
Title: # A	Activation Time for DSCH			
Source:	RAN WG2			
Work item code: 第 T	El		Date: 第 15/0	08/2003
De	se <u>one</u> of the following cated <b>F</b> (correction)	rection in an earlier release	e) R96 (Relea R97 (Relea R98 (Relea R99 (Relea Rel-4 (Relea Rel-5 (Relea	•
Reason for change:	器 The activation time is	not un-ambiguously de	,	
Reason for change.	configurations.	Thot dif-ambiguously de	silied in the case o	i Doci i le-
Summary of change:	activation time T for I	ciated dedicated chann DSCH re-configurations this change is isolated		
Consequences if not approved:		synchronization may no ub-optimal resource utili		ading to service
Clauses affected:	₩ 8.6.3.1			
Other specs affected:	Y N  X Other core specificati X O&M Specificati	ons		
Other comments:	<b>ж</b>			

#### **How to create CRs using this form:**

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

#### 8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

- 1> let the "reference CCTrCH" be defined as the CCTrCh that includes any transport or is associated with any physical channel which is being added, re-configured or removed, or, in the case of DSCH (FDD only), the CCTrCh including the associated DCH;
- 1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the <a href="mailto:same-reference">same-reference</a> CCTrCh-including any transport channel which is added, reconfigured or has been removed:
  - 2> select that frame boundary as the activation time T.

#### 1> else:

- 2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the <a href="mailto:same-reference">same-reference</a> CCTrCh-including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T.
- 1> at the activation time T:
  - 2> for a physical channel reconfiguration caused by the received message:
    - 3> release the physical channel configuration, which was present before T;
    - 3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.
  - 2> for actions, other than a physical channel reconfiguration, caused by the received message:
    - 3> perform the actions for the information elements in the received message as specified elsewhere.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

- 1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;
- 1> at the activation time T:
- 2> perform the actions for the information elements in the received message as specified elsewhere.
- NOTE: In FDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

## 3GPP TSG-RAN2 Meeting #37 Budapest, Hungary, 25<sup>th</sup> August 2003

		CHANGE	REQ	JEST	•	CR-Form-v7
¥ 2	<mark>5.331</mark> CR	2032	жrev	1 *	Current vers	4.10.0 **
For <u><b>HELP</b></u> on usin	g this form, se	e bottom of this	page or l	ook at th	e pop-up text	over the <b>%</b> symbols.
Proposed change affe	ects: UICC	apps <b>ж</b>	ME X	Radio A	ccess Networ	k X Core Network
Title: 第 A	Activation Time	for DSCH				
Source: # R	RAN WG2					
Work item code: 第 T	El				Date: ₩	15/08/2003
De	one of the for F (correction A (corresponent B (addition C (functional D (editorial I	nds to a correction of feature), I modification of for nodification) ons of the above	n in an earl eature)		2 e) R96 R97	Rel-4 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)
Reason for change:	★ The activa	tion time is not	un-ambigi	iously de		ase of DSCH re-
riousen ier enanger	configurat		arr arribig	acaciy a		000 01 2001110
Summary of change:	activation Isolated In	time T for DSCI	H re-confiç	gurations	S.	
Consequences if not approved:		nfiguration sync ities and sub-op				rly, leading to service
Clauses affected:	<b>₩</b> 8.6.3.1					
Other specs affected:	X Test	er core specifica specifications I Specifications		ж		
Other comments:	<b></b>					

#### **How to create CRs using this form:**

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

#### 8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

- 1> let the "reference CCTrCH" be defined as the CCTrCh that includes any transport or is associated with any physical channel which is being added, re-configured or removed, or, in the case of DSCH (FDD only), the CCTrCh including the associated DCH;
- 1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the <a href="mailto:same-reference">same-reference</a> CCTrCh-including any transport channel which is added, reconfigured or has been removed:
  - 2> select that frame boundary as the activation time T.

#### 1> else:

- 2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the <a href="mailto:same-reference">same-reference</a> CCTrCh-including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T.
- 1> at the activation time T:
  - 2> for a physical channel reconfiguration caused by the received message:
    - 3> release the physical channel configuration, which was present before T;
    - 3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.
  - 2> for actions, other than a physical channel reconfiguration, caused by the received message:
    - 3> perform the actions for the information elements in the received message as specified elsewhere.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

- 1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;
- 1> at the activation time T:
- 2> perform the actions for the information elements in the received message as specified elsewhere.
- NOTE: In FDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

## 3GPP TSG-RAN2 Meeting #37 Budapest, Hungary, 25<sup>th</sup> August 2003

			(	CHAN	IGE	REG	UE	ST	•				CR-Form-v7
*	25	.331	CR	2033		жrev	-	æ	Curren	t vers	sion:	5.5.0	<b>¥</b>
For <u>HELP</u> on	using	this for	m, see	bottom	of this	page o	look	at the	e pop-up	o text	over	the <b>%</b> sy	mbols.
Proposed change				pps <b>%</b>		ME 🕽	K Rad	dio A	ccess N	letwo	rk X	Core N	etwork
Title:	<b>₩</b> Act	ivation	Time	for HS-D	SCH								
Source:	₩ RA	N WG	2										
Work item code:	₩ HS	DPA-L	.23						Da	te: ೫	15/	08/2003	
Category:	ж <mark>F</mark>								Releas				
	Deta	F (corr A (corr B (add C (fund D (edit iled exp	rection) respond dition of ctional i torial m olanatio	ds to a co feature), modificati odificatior ns of the FR 21.900	orrection ion of fe n) above	n in an ea			2 R9 R9 R9 R9 R6 R6	96 97 98	(GSN (Rele (Rele (Rele (Rele (Rele	Illowing real Phase 2, asse 1996, asse 1997, asse 1998, asse 1999, asse 4) asse 5) asse 6)	) ) )
Reason for chan	ge: Ж			ion time onfigurat		un-ambi	guous	sly de	efined in	the c	ase o	of DSCH	and HS-
Summary of cha	nge: Ж	activ	ation ti	me T for the HS-9	DSCF	H and H	S-DS(	CH re	e-configu	uratio	ns.	in identif	
Consequences it not approved:	f #8			iguration ies and s						orope	rly, le	ading to	service
Clauses affected	: ¥€	8.6.3	3.1										
Other specs affected:	¥	Y N X X	Test	core sp specifica Specific	tions	tions	ж						
Other comments	: ¥												

#### **How to create CRs using this form:**

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

#### 8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

- 1> let the "reference CCTrCH" be defined as the CCTrCh including that includes any transport or is associated with any physical channel which is being added, re-configured or removed, or, in the case of DSCH (FDD only) or HS-DSCH, the CCTrCh including the associated DCH;
- 1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the <a href="mailto:samereference">samereference</a> CCTrCh including any transport channel which is added, reconfigured or has been removed:
  - 2> select that frame boundary as the activation time T;

#### 1> else:

- 2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the same reference CCTrCh including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T<sub>2</sub>.
- 1> at the activation time T:
  - 2> for a physical channel reconfiguration other than an HS-DSCH related reconfiguration, caused by the received message:
    - 3> release the physical channel configuration, which was present before T;
    - 3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.
  - 2> for an HS-DSCH related reconfiguration caused by the received message:
    - 3> select the HS-SCCH subframe boundary immediately before the first HS-SCCH subframe, which entirely falls within the 10 ms frame next afterfollowing T;
    - 3> start using, at that HS-SCCH subframe boundary, the new HS-DSCH configuration in the received message, replacing any old HS-DSCH configuration.
  - 2> for actions, other than a physical channel reconfiguration, caused by the received message:
    - 3> perform the actions for the information elements in the received message as specified elsewhere.
- NOTE: An "HS-DSCH related reconfiguration" includes, in particular, reconfigurations that need to be timealigned with the 2ms subframe of the HS-SCCH, HS-PDSCH and/or HS-DPCCH. For example, start and stop of HS-SCCH reception and serving HS-DSCH cell change.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

- 1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;
- 1> at the activation time T:
  - 2> perform the actions for the information elements in the received message as specified elsewhere.
- NOTE: In FDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in idle mode or CELL\_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

## 3GPP TSG-RAN-WG2 Meeting #37 Budapest, Hungary, 25<sup>th</sup>-29<sup>th</sup> August 2003

			(	CHAN	GE	REQ	UE	ST	•			OIX-I OIIII-VI
*	25.331		CR	2036	:	жrev	1	æ	Current ve	rsion:	3.f.0	*
For <u>HEL</u>	on using t	his fori	n, see	e bottom o	of this <sub>l</sub>	page or	look	at th	e pop-up tex	kt over	the <b>%</b> syl	mbols.
Proposed ch	ange affec	ts: U	IICC a	apps <b>#</b>	]	ME	Rad	dio A	ccess Netwo	ork X	Core No	etwork
Title:	₩ STA	RT val	ue cal	culation fo	or RLC	C size ch	nange	)				
Source:	₩ RA	N WG2	2									
Work item c	ode: Ж TEI								Date: 8	<b>£</b> 28/	/08/2003	
Category:	Detai	F (corre A (corre B (add C (fund D (edited led exp	ection) espone ition of etional orial m lanatic	ds to a corresponding to a corre	rection on of fe ) above c	in an ea ature)			2	of the fo (GSN (Rele (Rele (Rele (Rele (Rele	9 ollowing rele of Phase 2) pase 1996) pase 1997) pase 1999) pase 4) pase 5) pase 6)	
Reason for o	change: Ж	th th th U th d d 2) D th th th R so o in	ne UE nem in IE to s ne con eciphe ouring ne UE ne CO BB2, d ection f SRB	to calculate the responser to calculate the responser to th	ate the onse rendered to the consecutive to the con	e START message he corre age. Hove message cation per set the to MAX( componer ver, if the	value. Fur spon weve ge if terformew fupling to fee Cellates 1	therr ding r, it is he S ned u uplin k HF he C I Upd the U	nfigured, sec ccording to somere, section RLC entity to some clear has not clear has a upon receipt k and downled to compone OUNT-C of late Confirm the to use the cections many	section n 8.5.2 to the vow the re cha t of Ce link HF nt of th RB2), also ce HFN	n 8.5.9 and 21 mandar values ind e network nged. Il Update FN compo ne COUNT according changes the	d include tes the licated in can  Confirm, nent of T-C of g to ne sizes ansmitted
Summary of	change: Ж	not che Confi	nange rm me ct Ana	the RLC essage. alysis:	size o	f RB2 in	any any	reco	the specificand representation repre	nessa <u>(</u>	ge or Cell	Update

Consequences if not approved:

**36** 1) Changing the RB2 RLC size will cause security failure on all messages in RB2

messages. The CR will not affect UTRAN implementations otherwise.

2) Changing RB2 RLC Size with SRNS Relocation in Cell Update Confirm will

change RLC Size for RB2 in reconfiguration messages or Cell update confirm

remain unclear and security on RB2 will fail after this.

Clauses affected:	ж	8	.5.2	1		
		Υ	N			
Other specs	ж		X	Other core specifications	*	
affected:			X	Test specifications		
			X	O&M Specifications		
				•		
Other comments:	ж					

#### How to create CRs using this form:

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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> 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 logical channel transporting data PDUs is different from the one derived from the previously stored configuration:
  - 2> re-establish the corresponding RLC entity;
  - 2> configure the corresponding RLC entity with the new 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> set the HFN values for the corresponding RLC entity 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> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE: 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.

- 1> if that RB is using UM:
  - 2> indicate the largest applicable RLC size 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.

## 3GPP TSG-RAN-WG2 Meeting #37 Budapest, Hungary, 25<sup>th</sup>-29<sup>th</sup> August 2003

		CHANGE	REQU	EST		CR-Form-v7
90	0.5					: <b>4 9</b>
***************************************	25.331	CR 2037	жrev	<b>1</b> *	Current vers	ion: <b>4.a.0</b> **
For <u>HEL</u>	P on using this fo	orm, see bottom of this	page or lo	ok at th	e pop-up text	over the <b>%</b> symbols.
Proposed cl	hange affects:	UICC apps#	ME F	Radio A	ccess Networ	k X Core Network
оросси с.		σ.σσ αρροσσ <u></u>		1001071		M. A. Coro Homelin
	00 OT 1 DT					
Title:	器 START Va	alue calculation for RL	C size char	nge		
Source:	₩ RAN WO	62				
Work item c	eode: # TEI				Date: ₩	28/08/2003
Category:	<b>≋</b> A				Release: #	Rel-4
Category.		f the following categories	:			the following releases:
	<b>F</b> (co	rrection)			2	(GSM Phase 2)
		rresponds to a correction Idition of feature),	n in an earlie	r release	e) R96 R97	(Release 1996) (Release 1997)
		nctional modification of f	eature)		R98	(Release 1998)
	<b>D</b> (ea	litorial modification)	,		R99	(Release 1999)
		constitutions of the above	categories c	an	Rel-4	(Release 4)
	be found in	3GPP <u>TR 21.900</u> .			Rel-5 Rel-6	(Release 5) (Release 6)
					71070	(Noicedoc o)
Reason for	change:	Currently, if the RLC	AM sizes ar	e recor	figured, secti	on 8.2.2.3 mandates
					•	ection 8.5.9 and include
		them in the response				
		the confirmation mess				the values indicated in
		decipher the response				
						of Cell Update Confirm,
	ŕ	the UE is mandated to	set the ne	w uplin	k and downlin	k HFN component of
		the COUNT-C of RB2				
		RB2, downlink HFN c				
						also changes the sizes HFN values transmitted
						ate clashing actions for
		the UE.				
0	folomore on the		Caracilla !			and the LITDANI I
Summary of						on, the UTRAN should essage or Cell Update
		ifirm message.	or NDZ III al	ily leco	ringuration III	essage of Cell Opuale

2) Changing RB2 RLC Size with SRNS Relocation in Cell Update Confirm will

**%** 1) Changing the RB2 RLC size will cause security failure on all messages in

The CR will affect UTRAN implementations that are currently attempting to change RLC Size for RB2 in reconfiguration messages or Cell update confirm

messages. The CR will not affect UTRAN implementations otherwise.

**Impact Analysis:** 

Consequences if

not approved:

remain unclear and security on RB2 will fail after this.

Clauses affected:	ж	8	.5.2	1		
		Υ	N			
Other specs	ж		X	Other core specifications	*	
affected:			X	Test specifications		
			X	O&M Specifications		
				•		
Other comments:	ж					

#### How to create CRs using this form:

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.
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- 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:
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  - 2> if there is no remaining RLC size index corresponding to an RLC size within the Transport Format Set stored for RACH:
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- 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 logical channel transporting data PDUs is different from the one derived from the previously stored configuration:
  - 2> re-establish the corresponding RLC entity;
  - 2> configure the corresponding RLC entity with the new 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> set the HFN values for the corresponding RLC entity 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> set the HFN values for the corresponding RLC entity equal to the value of the IE "START" that will be included in the reconfiguration complete message for this CN domain.

NOTE: 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.

- 1> if that RB is using UM:
  - 2> indicate the largest applicable RLC size 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.

## 3GPP TSG-RAN WG2 #37

Budapest, Hung	ai y,	23	<b>– 29</b>	Augus	2003	,							C	R-Form-v
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*	25	.331	CR	2042	æ	rev	-	æ	Curr	ent vei	rsion:	3.f.0	) 8	æ
For <mark>HELP</mark> on u	sing i	this foi	rm, see	e bottom d	of this p	age or	look	at th	е рор	-up tex	ct ove	r the <b>%</b> s	syml	ools.
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Source: #	RA	N WG	2											
Work item code: ₩	TE									Date: 8	€ 25	/08/2003	3	
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				npact Anaty ty correct		CP Coi	nfigur	atior	n for R	FC 25	07			
		capa	bilities	pact state were not on for RF0	in line.	No UE	imp:	act. I	lf not i	mplem				
Consequences if not approved:	ж	PDC	P conf	figuration	may fai	l witho	ut no	tice i	n UTF	RAN.				
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		YN	]											
Other specs affected:	Ж	X		r core spe specificat		ons	æ							

	X O&M Specifications	
Other comments:	<b>X</b>	

#### How to create CRs using this form:

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

#### 8.6.4.10 PDCP Info

If IE "PDCP info" is included, the UE shall:

- 1> if the radio bearer is connected to a CS domain radio access bearer:
  - 2> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "PDCP PDU header" is set to the value "absent":
  - 2> if the IE "Support for lossless SRNS relocation" is true:
    - 3> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "PDCP PDU header" is set to the value "present":
  - 2> if the IE "Support for lossless SRNS relocation" is false:
    - 3> if the IE "Header compression information" is absent:
      - 4> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "Header compression information" is absent:
  - 2> not use Header compression after the successful completion of this procedure;
  - 2> remove any stored configuration for the IE "Header compression information".
- 1> configure the PDCP entity for that radio bearer accordingly;
- 1> configure the RLC entity for that radio bearer according to the value of the IE "Support for lossless SRNS relocation".

Note: The UE behaviour is unspecified if the IE "Header compression information" is present and the "algorithm type" is set to "RFC 2507" and the UE capability "Maximum header compression context space", as specified in [35], is exceeded.

# 3GPP TSG-RAN WG2 #37 Budapest, Hungary, 25<sup>th</sup> – 29<sup>th</sup> August 2003

Budapest, Hungary, 25 <sup>th</sup> – 29 <sup>th</sup> August 2003 CR-Form-v7												
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*	25	.331	CR	2043		≋rev	-	æ	Current v	ersion	4.10	<b>.0</b> *
For HELP on us				e bottom	_	_				_		symbols.  Network
Title: %	Coi	rectio	n of PI	OCP Con	figurat	ion for F	RFC 2	507				
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Category: 第	Deta	F (cor A (cor B (add C (fun D (edi iled ex	rection) respon dition of ctional torial m olanatio	owing cate ds to a con feature), modification ons of the TR 21.900	rrection on of fe n) above (	n in an ea		eleas	2	of the (G) (R) (R) (R) (R) (R) (R) (R) (R) (R) (R	Rel-4 following SM Phase elease 19 elease 19 elease 19 elease 4) elease 5) elease 6)	e 2) 96) 97) 98)
										<u>'</u>		
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Summary of chang	je: ₩	A no							s unspecifi ity.	ed if a	configur	ation
		capa	ALID Cability "	Max HC	contex	t space			if the conf	ŭ		eds the UE
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		capa	bilities	were no	t in line	e. No U	E impa	act. I	inction who If not imple capability.	emente		
Consequences if not approved:	*	PDC	P conf	guration	may f	ail witho	out not	tice i	n UTRAN.			
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	X O&M Specifications	
Other comments:	<b>X</b>	

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  - 2> if the IE "Support for lossless SRNS relocation" is true:
    - 3> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "PDCP PDU header" is set to the value "present":
  - 2> if the IE "Support for lossless SRNS relocation" is false:
    - 3> if the IE "Header compression information" is absent:
      - 4> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "Header compression information" is absent:
  - 2> not use Header compression after the successful completion of this procedure;
  - 2> remove any stored configuration for the IE "Header compression information".
- 1> configure the PDCP entity for that radio bearer accordingly;
- 1> configure the RLC entity for that radio bearer according to the value of the IE "Support for lossless SRNS relocation".

Note: The UE behaviour is unspecified if the IE "Header compression information" is present and the "algorithm type" is set to "RFC 2507" and the UE capability "Maximum header compression context space", as specified in [35], is exceeded.

## 3GPP TSG-RAN WG2 #37 Budapest, Hungary, 25<sup>th</sup> – 29<sup>th</sup> August 2003

Tdoc #R2-031962

CHANGE REQUEST										
×	25.331	CR <mark>2044</mark>	жrev	-	¥	Current version:	5.5.0	æ		

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

Proposed chang		J	UICC apps#	, 0	E X Radio Ac		
Title:	ж	Correct	tion of PDCP Configura	ation	or RFC 2507		
			· ·				
Source:	Ж	RAN W	/G2				
Work item code:	: <b>Ж</b>	TEI				Date: %	25/08/2003
Category:	Ж	F				Release: #	Rel-5
			of the following categorie	s:			the following releases:
		•	correction)			2	(GSM Phase 2)
			corresponds to a correction	n in a	n earlier release,		(Release 1996)
			addition of feature),	_		R97	(Release 1997)
			unctional modification of	featur	e)	R98	(Release 1998)
			editorial modification)			R99	(Release 1999)
			explanations of the above	cate	gories can	Rel-4	(Release 4)
		be found	in 3GPP <u>TR 21.900</u> .			Rel-5	(Release 5)
						Rel-6	(Release 6)
December of the		- 00 TI			'l' ( ( N A   1   O		W

Reason for change: #	The meaning of the UE capability "Max HC context space" is not clear and the UE behaviour in case the configuration of RFC 2507 exceeds the UE capabilities is not sufficiently specified.
Summary of change: %	Rel99 & Rel4: A note is added, saying that UE behaviour is unspecified if a configuration exceeds its "Max HC context space" capability.
	Rel5: INVALID CONFIGURATION is set to TRUE if the configuration exceeds the UE capability "Max HC context space". The value range of the UE capability "Max HC context space" is extended.
	Isolated Impact Analysis Functionality corrected: PDCP Configuration for RFC 2507
	Isolated impact statement: Correction to a function where configuration and UE capabilities were not in line. No errors, if implemented by either UTRAN or UE only.
Consequences if # not approved:	PDCP configuration may fail without notice in UTRAN.

Clauses affected:	æ	8.6.4	1.10, 10.3.3.24, 11.3		
	_				
	,	YN			
Other specs	*	X	Other core specifications	Ж	
affected:		X	Test specifications		34.123

	X O&M Specifications	
Other comments:	<b></b>	

#### How to create CRs using this form:

- 1) Fill out the above form. The symbols above marked \( \mathbb{X} \) 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

#### 8.6.4.10 PDCP Info

For RFC 3095:

- 1> the chosen MAX\_CID shall not be greater than the value "Maximum number of ROHC context sessions" as indicated in the IE "PDCP Capability";
- 1> the configuration for the PACKET\_SIZES\_ALLOWED is FFS.

If IE "PDCP info" is included, the UE shall:

- 1> if the radio bearer is connected to a CS domain radio access bearer:
  - 2> set the variable INVALID CONFIGURATION to TRUE.
- 1> if the IE "PDCP PDU header" is set to the value "absent":
  - 2> if the IE "Support for lossless SRNS relocation" is true:
    - 3> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "PDCP PDU header" is set to the value "present":
  - 2> if the IE "Support for lossless SRNS relocation" is false:
    - 3> if the IE "Header compression information" is absent:
      - 4> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> if the IE "Header compression information" is absent:
  - 2> not use Header compression after the successful completion of this procedure;
  - 2> remove any stored configuration for the IE "Header compression information".
- 1> if the IE "Header compression information" is present:
  - 2> if the IE "Algorithm Type" is set to "RFC 2507":
    - 3> if the UE capability "Maximum header compression context space", as specified in [35], is exceeded with this configuration:
      - 4> set the variable INVALID\_CONFIGURATION to TRUE.
- 1> configure the PDCP entity for that radio bearer accordingly;
- 1> configure the RLC entity for that radio bearer according to the value of the IE "Support for lossless SRNS relocation";
- 1> set the PROFILES parameter, used by inband ROHC profile negotiation, for this PDCP entity for both UL and DL equal to the list of ROHC profiles received in the IE "PDCP info". A UE complying to this version of the protocol shall support ROHC profiles 0x0000 (ROHC uncompressed), 0x0001 (ROHC RTP), 0x0002 (ROHC UDP) and 0x0003 (ROHC ESP) (see [52]).

## 10.3.3.24 PDCP capability

Indicates which algorithms and which value range of their parameters are supported by the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Support for lossless SRNS	MP		Boolean	TRUE means	
relocation				supported	
Support for RFC2507	MP		Boolean	TRUE means	
				supported	
>Max HC context space			Integer(512,		
			1024, 2048,		
			4096, 8192		
			<u>, 16384,</u>		REL-5
			<u>32768,</u>		
			<u>65536,</u>		
			<u>131072</u> )		
Support for RFC 3095	MP		Boolean	TRUE means supported	REL-4
>Maximum number of ROHC	MD		Integer(2, 4,	Default value is	REL-4
context sessions			8, 12, 16, 24,	16.	
			32, 48, 64,		
			128, 256,		
			512, 1024,		
Davida da antica da altra	MD		16384)	Defectional is 0	DEL 4
>Reverse decompression depth	MD		Integer (065535)	Default value is 0 (reverse	REL-4
				decompression is	
				not supported).	
>Support for RFC 3095 context	MP		Boolean	TRUE means	REL-5
relocation				supported	

```
__ ***************************
      USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
__ ****************
                                  ENUMERATED {
AccessStratumReleaseIndicator::=
                                       rel-4, rel-5, spare14, spare13,
                                       spare12, spare11, spare10, spare9, spare8,
                                       spare7, spare6, spare5, spare4, spare3,
                                       spare2, spare1 }
-- TABULAR : for ActivationTime, value 'now' always appear as default, and is encoded
-- by absence of the field
                                  INTEGER (0..255)
ActivationTime ::=
BackoffControlParams ::=
                                  SEQUENCE {
   n-AP-RetransMax
                                      N-AP-RetransMax,
   n-AccessFails
                                      N-AccessFails,
                                      NF-BO-NoAICH,
   nf-BO-NoAICH
   ns-BO-Busy
                                      NS-BO-Busy,
   nf-BO-AllBusy
                                      NF-BO-AllBusy
   nf-BO-Mismatch
                                      NF-BO-Mismatch,
                                      T-CPCH
   t-CPCH
}
C-RNTI ::=
                                  BIT STRING (SIZE (16))
CapabilityUpdateRequirement ::=
                                  SEOUENCE {
   ue-RadioCapabilityFDDUpdateRequirement-FDD BOOLEAN,
    -- ue-RadioCapabilityTDDUpdateRequirement-TDD is for 3.84Mcps TDD update requirement
   ue-RadioCapabilityTDDUpdateRequirement-TDD BOOLEAN,
                                      SystemSpecificCapUpdateReqList
   systemSpecificCapUpdateReqList
                                                                        OPTIONAL
}
CapabilityUpdateRequirement-r4-ext ::= SEQUENCE {
   ue-RadioCapabilityUpdateRequirement-TDD128 BOOLEAN
CapabilityUpdateRequirement-r4 ::= SEQUENCE {
   ue-RadioCapabilityFDDUpdateRequirement-FDD BOOLEAN,
   ue-RadioCapabilityTDDUpdateRequirement-TDD384
                                                 BOOLEAN,
   ue-RadioCapabilityTDDUpdateRequirement-TDD128
                                                  BOOLEAN,
   systemSpecificCapUpdateReqList SystemSpecificCapUpdateReqList
                                                                        OPTIONAL
}
CellUpdateCause ::=
                                  ENUMERATED {
                                      cellReselection,
                                      periodicalCellUpdate,
                                      uplinkDataTransmission.
                                      utran-pagingResponse,
                                      re-enteredServiceArea,
                                      radiolinkFailure,
                                      rlc-unrecoverableError,
                                      spare1 }
ChipRateCapability ::=
                                  ENUMERATED {
                                      mcps3-84, mcps1-28 }
CipheringAlgorithm ::=
                                  ENUMERATED {
                                      uea0, uea1 }
CipheringModeCommand ::=
                                  CHOICE {
   startRestart
                                      CipheringAlgorithm,
                              NULL
   dummy
}
                                  SEQUENCE {
CipheringModeInfo ::=
    -- TABULAR: The ciphering algorithm is included in the CipheringModeCommand.
   cipheringModeCommand
                                    CipheringModeCommand,
                                                                         OPTIONAL,
   activationTimeForDPCH
                                      ActivationTime
   rb-DL-CiphActivationTimeInfo
                                      RB-ActivationTimeInfoList
                                                                         OPTIONAL
}
CN-DRX-CycleLengthCoefficient ::= INTEGER (6..9)
                                  CHOICE {
CN-PagedUE-Identity ::=
```

```
imsi-GSM-MAP
                                        IMSI-GSM-MAP,
    tmsi-GSM-MAP
                                        TMSI-GSM-MAP
    p-TMSI-GSM-MAP
                                        P-TMSI-GSM-MAP,
    imsi-DS-41
                                        IMSI-DS-41,
    tmsi-DS-41
                                        TMSI-DS-41,
    spare3
                                        NULL,
    spare2
                                        NULL,
    spare1
                                        NULL
}
CompressedModeMeasCapability ::=
                                    SEQUENCE {
    fdd-Measurements
                                        BOOLEAN.
    -- TABULAR: The IEs tdd-Measurements, gsm-Measurements and multiCarrierMeasurements
    -- are made optional since they are conditional based on another information element.
    -- Their absence corresponds to the case where the condition is not true.
                                       BOOLEAN
    tdd-Measurements
                                                                             OPTIONAL,
                                        GSM-Measurements
    qsm-Measurements
                                                                             OPTIONAL,
    multiCarrierMeasurements
                                        BOOLEAN
                                                                             OPTIONAL
}
{\tt Compressed Mode Meas Capability-LCR-r4 ::= SEQUENCE } \{
    tdd128-Measurements
                                            BOOLEAN
                                                                             OPTIONAL
CompressedModeMeasCapabFDDList ::= SEQUENCE (SIZE (1..maxFreqBandsFDD)) OF
                                        CompressedModeMeasCapabFDD
CompressedModeMeasCapabFDD ::=
                                    SEQUENCE {
                                        RadioFrequencyBandFDD
   radioFrequencyBandFDD
                                                                 OPTIONAL,
    dl-MeasurementsFDD
                                        BOOLEAN.
    ul-MeasurementsFDD
                                        BOOLEAN
CompressedModeMeasCapabTDDList ::= SEQUENCE (SIZE (1..maxFreqBandsTDD)) OF
                                        {\tt CompressedModeMeasCapabTDD}
CompressedModeMeasCapabTDD ::=
                                    SEQUENCE {
    radioFrequencyBandTDD
                                        RadioFrequencyBandTDD,
    dl-MeasurementsTDD
                                        BOOLEAN,
    ul-MeasurementsTDD
                                        BOOLEAN
CompressedModeMeasCapabGSMList ::= SEQUENCE (SIZE (1..maxFreqBandsGSM)) OF
                                        {\tt CompressedModeMeasCapabGSM}
CompressedModeMeasCapabGSM ::=
                                    SEQUENCE {
    radioFrequencyBandGSM
                                        RadioFrequencyBandGSM,
    dl-MeasurementsGSM
                                        BOOLEAN.
    ul-MeasurementsGSM
                                        BOOLEAN
}
                                    SEQUENCE {
CompressedModeMeasCapabMC ::=
    dl-MeasurementsMC
                                        BOOLEAN,
    ul-MeasurementsMC
                                        BOOLEAN
}
CPCH-Parameters ::=
                                    SEQUENCE {
   initialPriorityDelayList
                                       InitialPriorityDelayList
                                                                           OPTIONAL,
    backoffControlParams
                                        BackoffControlParams,
    -- TABULAR: TPC step size nested inside PowerControlAlgorithm
    powerControlAlgorithm
                                        PowerControlAlgorithm,
    dl-DPCCH-BER
                                        DL-DPCCH-BER
}
DL-CapabilityWithSimultaneousHS-DSCHConfig ::= ENUMERATED{kbps32, kbps64, kbps128, kbps384}
DL-DPCCH-BER ::=
                                    INTEGER (0..63)
                                    SEQUENCE {
DL-PhysChCapabilityFDD ::=
                                        INTEGER (1..8),
    maxNoDPCH-PDSCH-Codes
    maxNoPhysChBitsReceived
                                        MaxNoPhysChBitsReceived,
    supportForSF-512
                                        BOOLEAN,
    supportOfPDSCH
                                        BOOLEAN,
    \verb|simultaneousSCCPCH-DPCH-Reception| SimultaneousSCCPCH-DPCH-Reception|
DL-PhysChCapabilityFDD-v380ext ::=
                                            SEOUENCE {
    supportOfDedicatedPilotsForChEstimation
                                                SupportOfDedicatedPilotsForChEstimation
                                                                                             OPTIONAL
```

```
}
SupportOfDedicatedPilotsForChEstimation ::=
                                                     ENUMERATED { true }
DL-PhysChCapabilityTDD ::=
                                    SEQUENCE {
   maxTS-PerFrame
                                        MaxTS-PerFrame,
    maxPhysChPerFrame
                                         MaxPhysChPerFrame,
                                        MinimumSF-DL,
   minimumSF
    {\tt supportOfPDSCH}
                                         BOOLEAN,
    {\tt maxPhysChPerTS}
                                        MaxPhysChPerTS
}
DL-PhysChCapabilityTDD-LCR-r4 ::= SEQUENCE {
    maxTS-PerSubFrame
                                         MaxTS-PerSubFrame-r4,
    maxPhysChPerFrame
                                         MaxPhysChPerSubFrame-r4,
                                        MinimumSF-DL,
   minimumSF
    supportOfPDSCH
                                         BOOLEAN,
    maxPhysChPerTS
                                         MaxPhysChPerTS,
    supportOf8PSK
                                         BOOLEAN
}
                                    SEQUENCE {
DL-TransChCapability ::=
    maxNoBitsReceived
                                        MaxNoBits,
    maxConvCodeBitsReceived
                                        MaxNoBits,
    turboDecodingSupport
                                        TurboSupport,
    maxSimultaneousTransChs
                                        MaxSimultaneousTransChsDL,
    maxSimultaneousCCTrCH-Count
                                        MaxSimultaneousCCTrCH-Count,
    maxReceivedTransportBlocks
                                        MaxTransportBlocksDL,
   maxNumberOfTFC
                                        MaxNumberOfTFC-DL,
    maxNumberOfTF
                                        MaxNumberOfTF
}
DRAC-SysInfo ::=
                                    SEQUENCE {
    transmissionProbability
                                        TransmissionProbability,
    maximumBitRate
                                        MaximumBitRate
DRAC-SysInfoList ::=
                                    SEQUENCE (SIZE (1..maxDRACclasses)) OF
                                        DRAC-SysInfo
DSCH-RNTI ::=
                                    BIT STRING (SIZE (16))
                                    BIT STRING (SIZE (32))
ESN-DS-41 ::=
EstablishmentCause ::=
                                     ENUMERATED {
                                         originatingConversationalCall,
                                         originatingStreamingCall,
                                         originatingInteractiveCall,
                                         originatingBackgroundCall,
                                         originatingSubscribedTrafficCall,
                                         terminatingConversationalCall,
                                         terminatingStreamingCall,
                                         terminatingInteractiveCall,
                                         terminatingBackgroundCall,
                                         emergencyCall,
                                         interRAT-CellReselection,
                                         interRAT-CellChangeOrder,
                                         registration,
                                         detach,
                                         originatingHighPrioritySignalling,
                                         originatingLowPrioritySignalling,
                                         callRe-establishment,
                                         terminatingHighPrioritySignalling,
                                         terminatingLowPrioritySignalling,
                                         terminatingCauseUnknown,
                                         spare12,
                                         spare11,
                                         spare10,
                                         spare9,
                                         spare8,
                                         spare7,
                                         spare6,
                                         spare5,
                                         spare4,
                                         spare3,
                                         spare2,
                                         spare1 }
```

```
FailureCauseWithProtErr ::=
                                     CHOICE {
    configurationUnsupported
                                         NULL,
    physicalChannelFailure
                                         NULL,
    incompatible {\tt Simultaneous Reconfiguration}
                                         NULL
    compressedModeRuntimeError
                                         TGPSI,
                                         ProtocolErrorInformation,
    protocolError
                                         NULL,
    cellUpdateOccurred
    invalidConfiguration
                                         NULL,
    {\tt configurationIncomplete}
                                         NULL,
    unsupportedMeasurement
                                         NULL,
                                         NULL.
    spare7
    spare6
                                         NULL,
    spare5
                                         NULL,
    spare4
                                         NULL,
    spare3
                                         NULL,
    spare2
                                         NIII.I.
    spare1
                                         NULL
}
FailureCauseWithProtErrTrId ::=
                                     SEQUENCE {
        rrc-TransactionIdentifier
                                         RRC-TransactionIdentifier,
        failureCause
                                         FailureCauseWithProtErr
}
                                             SEQUENCE {
GroupIdentityWithReleaseInformation ::=
        rrc-ConnectionReleaseInformation
                                                 RRC-ConnectionReleaseInformation,
        groupReleaseInformation
                                                 GroupReleaseInformation
GroupReleaseInformation ::=
                                     SEOUENCE {
    uRNTI-Group
                                         U-RNTI-Group
}
GSM-Measurements ::=
                                     SEQUENCE {
    gsm900
                                         BOOLEAN,
    dcs1800
                                         BOOLEAN,
    gsm1900
                                         BOOLEAN
H-RNTI ::=
                                     BIT STRING (SIZE (16))
HSDSCH-physical-layer-category ::=
                                         INTEGER (1..64)
UESpecificBehaviourInformationlidle ::= BIT STRING (SIZE (4))
UESpecificBehaviourInformationlinterRAT ::= BIT STRING (SIZE (8))
IMSI-and-ESN-DS-41 ::=
                                     SEQUENCE {
    imsi-DS-41
                                         IMSI-DS-41,
    esn-DS-41
                                         ESN-DS-41
}
IMSI-DS-41 ::=
                                     OCTET STRING (SIZE (5..7))
InitialPriorityDelayList ::=
                                     SEQUENCE (SIZE (1..maxASC)) OF
                                         NS-IP
InitialUE-Identity ::=
                                     CHOICE {
    imsi
                                         IMSI-GSM-MAP,
    tmsi-and-LAI
                                         TMSI-and-LAI-GSM-MAP,
                                         P-TMSI-and-RAI-GSM-MAP,
    p-TMSI-and-RAI
    imei
                                         IMEI,
    esn-DS-41
                                         ESN-DS-41,
    imsi-DS-41
                                         IMSI-DS-41,
    imsi-and-ESN-DS-41
                                         IMSI-and-ESN-DS-41,
    tmsi-DS-41
                                         TMSI-DS-41
}
IntegrityCheckInfo ::=
                                     SEQUENCE {
    messageAuthenticationCode
                                         MessageAuthenticationCode,
    rrc-MessageSequenceNumber
                                         RRC-MessageSequenceNumber
}
                                     SEQUENCE {
IntegrityProtActivationInfo ::=
    rrc-MessageSequenceNumberList
                                         RRC-MessageSequenceNumberList
```

```
IntegrityProtectionAlgorithm ::=
                                    ENUMERATED {
                                        uia1 }
IntegrityProtectionModeCommand ::= CHOICE {
    startIntegrityProtection
                                       SEQUENCE {
        integrityProtInitNumber
                                            IntegrityProtInitNumber
   modify
                                        SEQUENCE {
                                           IntegrityProtActivationInfo
       dl-IntegrityProtActivationInfo
}
IntegrityProtectionModeInfo ::=
                                    SEQUENCE {
    -- TABULAR: DL integrity protection activation info and Integrity
    -- protection intialisation number have been nested inside
    -- IntegrityProtectionModeCommand.
    integrityProtectionModeCommand
                                       IntegrityProtectionModeCommand,
    integrityProtectionAlgorithm
                                       IntegrityProtectionAlgorithm
                                                                           OPTIONAL
}
IntegrityProtInitNumber ::=
                             BIT STRING (SIZE (32))
MaxHcContextSpace ::=
                                        ENTIMERATED {
                                            by512, by1024, by2048, by4096,
                                            by8192 }
MaxHcContextSpace-r5 ::=
                                        ENUMERATED
                                            by16384, by32768, by65536, by131072}
                                    ENUMERATED {
MaxROHC-ContextSessions-r4 ::=
                                            s2, s4, s8, s12, s16, s24, s32, s48,
                                            s64, s128, s256, s512, s1024, s16384 }
MaximumAM-EntityNumberRLC-Cap ::=
                                    ENUMERATED {
                                        am3, am4, am5, am6,
                                        am8, am16, am30 }
-- Actual value MaximumBitRate = IE value * 16
MaximumBitRate ::=
                                    ENUMERATED { mws2047, mws4095 }
MaximumRLC-WindowSize ::=
MaxNoDPDCH-BitsTransmitted ::=
                                    ENUMERATED {
                                        b600, b1200, b2400, b4800,
                                        b9600, b19200, b28800, b38400,
                                        b48000, b57600 }
MaxNoBits ::=
                                    ENUMERATED {
                                        b640, b1280, b2560, b3840, b5120, b6400, b7680, b8960, b10240,
                                        b20480, b40960, b81920, b163840 }
MaxNoPhysChBitsReceived ::=
                                    ENUMERATED {
                                        b600, b1200, b2400, b3600,
                                        b4800, b7200, b9600, b14400,
                                        b19200, b28800, b38400, b48000,
                                        b57600, b67200, b76800 }
                                    ENUMERATED {
MaxNoSCCPCH-RL ::=
                                        rl1 }
MaxNumberOfTF ::=
                                    ENUMERATED {
                                        tf32, tf64, tf128, tf256,
                                        tf512, tf1024 }
                                    ENUMERATED {
MaxNumberOfTFC-DL ::=
                                        tfc16, tfc32, tfc48, tfc64, tfc96,
                                        tfc128, tfc256, tfc512, tfc1024 }
MaxNumberOfTFC-UL ::=
                                    ENUMERATED {
                                        tfc4, tfc8, tfc16, tfc32, tfc48, tfc64,
                                        tfc96, tfc128, tfc256, tfc512, tfc1024 }
MaxPhysChPerFrame ::=
                                    INTEGER (1..224)
MaxPhysChPerSubFrame-r4 ::=
                                    INTEGER (1..96)
```

```
MaxPhysChPerTimeslot ::=
                                     ENUMERATED {
                                         ts1, ts2 }
MaxPhysChPerTS ::=
                                     INTEGER (1..16)
MaxSimultaneousCCTrCH-Count ::=
                                     INTEGER (1..8)
MaxSimultaneousTransChsDL ::=
                                     ENUMERATED {
                                         e4, e8, e16, e32 }
MaxSimultaneousTransChsUL ::=
                                     ENUMERATED {
                                         e2, e4, e8, e16, e32 }
MaxTransportBlocksDL ::=
                                     ENUMERATED {
                                         tb4, tb8, tb16, tb32, tb48,
                                         tb64, tb96, tb128, tb256, tb512 }
MaxTransportBlocksUL ::=
                                     ENUMERATED {
                                         tb2, tb4, tb8, tb16, tb32, tb48,
                                         tb64, tb96, tb128, tb256, tb512 }
MaxTS-PerFrame ::=
                                     INTEGER (1..14)
                                     INTEGER (1..6)
MaxTS-PerSubFrame-r4 ::=
-- TABULAR: MeasurementCapability contains dependencies to UE-MultiModeRAT-Capability,
-- the conditional fields have been left mandatory for now.
                                   SEQUENCE {
MeasurementCapability ::=
                                         CompressedModeMeasCapability,
    downlinkCompressedMode
    {\tt uplinkCompressedMode}
                                         CompressedModeMeasCapability
}
MeasurementCapability-v370 ::=
                                     SEQUENCE {
                                         {\tt Compressed Mode Meas Capab FDD List},\\
    {\tt compressedModeMeasCapabFDDList}
    {\tt compressedModeMeasCapabTDDList}
                                         CompressedModeMeasCapabTDDList OPTIONAL,
                                         CompressedModeMeasCapabGSMList OPTIONAL,
    compressedModeMeasCapabGSMList
    {\tt compressedModeMeasCapabMC}
                                         CompressedModeMeasCapabMC
                                                                          OPTIONAL
}
                                     SEQUENCE {
MeasurementCapability-r4-ext ::=
    downlinkCompressedMode-LCR
                                         CompressedModeMeasCapability-LCR-r4,
    uplinkCompressedMode-LCR
                                         CompressedModeMeasCapability-LCR-r4
MessageAuthenticationCode ::=
                                     BIT STRING (SIZE (32))
MinimumSF-DL ::=
                                     ENUMERATED {
                                         sf1, sf16 }
MinimumSF-UL ::=
                                     ENUMERATED {
                                         sf1, sf2, sf4, sf8, sf16 }
                                     ENUMERATED {
MultiModeCapability ::=
                                         tdd, fdd, fdd-tdd }
MultiRAT-Capability ::=
                                     SEQUENCE {
    supportOfGSM
                                        BOOLEAN,
    supportOfMulticarrier
                                         BOOLEAN
}
MultiModeRAT-Capability-v5xyext ::= SEQUENCE {
    supportOfUTRAN-ToGERAN-NACC
N-300 ::=
                                     INTEGER (0..7)
N-301 ::=
                                     INTEGER (0..7)
N-302 ::=
                                     INTEGER (0..7)
N-304 ::=
                                     INTEGER (0..7)
N-308 ::=
                                     INTEGER (1..8)
N-310 ::=
                                     INTEGER (0..7)
N-312 ::=
                                     ENUMERATED {
```

```
s1, s50, s100, s200, s400,
                                          s600, s800, s1000 }
                                      ENUMERATED {
N-312ext ::=
                                          s2, s4, s10, s20 }
N-312-r5 ::=
                                          ENUMERATED {
                                          s1, s2, s4, s10, s20,
s50, s100, s200, s400,
                                          s600, s800, s1000 }
                                      ENUMERATED {
N-313 ::=
                                          s1, s2, s4, s10, s20,
                                           s50, s100, s200 }
                                      ENUMERATED {
N-315 ::=
                                          s1, s50, s100, s200, s400,
                                          s600, s800, s1000 }
N-315ext ::=
                                      ENUMERATED {
                                          s2, s4, s10, s20 }
N-315-r5 ::=
                                          ENUMERATED {
                                          s1, s2, s4, s10, s20,
s50, s100, s200, s400,
                                          s600, s800, s1000 }
                                      INTEGER (1..64)
N-AccessFails ::=
                                      INTEGER (1..64)
N-AP-RetransMax ::=
NetworkAssistedGPS-Supported ::=
                                      ENUMERATED {
                                          networkBased,
                                          ue-Based,
                                          bothNetworkAndUE-Based,
                                          noNetworkAssistedGPS }
NF-BO-AllBusy ::=
                                      INTEGER (0..31)
NF-BO-NoAICH ::=
                                      INTEGER (0..31)
NF-BO-Mismatch ::=
                                      INTEGER (0..127)
NS-BO-Busy ::=
                                      INTEGER (0..63)
NS-IP ::=
                                      INTEGER (0..28)
P-TMSI-and-RAI-GSM-MAP ::=
                                      SEQUENCE {
   p-TMSI
                                          P-TMSI-GSM-MAP,
    rai
                                          RAI
PagingCause ::=
                                      ENUMERATED {
                                          terminatingConversationalCall,
                                          terminatingStreamingCall,
                                          terminatingInteractiveCall,
                                          terminatingBackgroundCall,
                                          terminatingHighPrioritySignalling,
                                          terminatingLowPrioritySignalling,
                                          terminatingCauseUnknown,
                                          spare
PagingRecord ::=
                                      CHOICE {
    cn-Identity
                                          SEQUENCE {
                                              PagingCause,
        pagingCause
        cn-DomainIdentity
                                              CN-DomainIdentity,
        cn-pagedUE-Identity
                                              CN-PagedUE-Identity
    utran-Identity
                                          SEQUENCE {
        u-RNTI
                                              U-RNTI,
        cn-OriginatedPage-connectedMode-UE SEQUENCE {
                                                  PagingCause,
            pagingCause
            cn-DomainIdentity
                                                  CN-DomainIdentity,
            pagingRecordTypeID
                                                  PagingRecordTypeID
        }
                                                                                OPTIONAL
    }
```

```
}
PagingRecord-r5 ::=
                                      CHOICE {
    utran-SingleUE-Identity
                                          SEQUENCE {
        u-RNTI
                                              U-RNTI,
        cn-OriginatedPage-connectedMode-UE
                                              SEQUENCE {
            pagingCause
                                                   PagingCause,
            cn-DomainIdentity
                                                   CN-DomainIdentity,
            {\tt pagingRecordTypeID}
                                                   PagingRecordTypeID
                                                                                OPTIONAL,
                                                   RRC-ConnectionReleaseInformation
        rrc-ConnectionReleaseInformation
    },
                                              SEQUENCE ( SIZE (1 .. maxURNTI-Group) ) OF
    utran-GroupIdentity
                                                   {\tt GroupIdentityWithReleaseInformation}
}
                                      SEQUENCE (SIZE (1..maxPage1)) OF
PagingRecordList ::=
                                          PagingRecord
PagingRecordList-r5 ::=
                                      SEQUENCE (SIZE (1..maxPage1)) OF
                                          PagingRecord-r5
PDCP-Capability ::=
                                      SEQUENCE {
    losslessSRNS-RelocationSupport
                                          BOOLEAN,
    supportForRfc2507
                                          CHOICE {
                                              NULL,
        notSupported
        supported
                                              MaxHcContextSpace
}
                                      SEQUENCE {
PDCP-Capability-r4-ext ::=
    supportForRfc3095
                                      CHOICE {
        notSupported
                                              NULL,
        supported
                                              SEQUENCE {
            maxROHC-ContextSessions
                                                   {\tt MaxROHC-ContextSessions-r4} \quad {\tt DEFAULT~s16}\,,
            {\tt reverseCompressionDepth}
                                                   INTEGER (0..65535)
                                                                                DEFAULT 0
}
PDCP-Capability-r5-ext ::=
                                      SEQUENCE {
    supportForRfc3095ContextRelocation
                                              BOOLEAN,
                                              MaxHcContextSpace-r5
    maxHcContextSpace-r5
```