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

Title: Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.331 (3)

Source: TSG-RAN WG2

Agenda item: 7.2.3

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-021296	agreed	25.331	1408		R99	Clarification to Compressed Mode Status	F	3.10.0	3.11.0
R2-021297	agreed	25.331	1409		Rel-4	Clarification to Compressed Mode Status	A	4.4.0	4.5.0
R2-021298	agreed	25.331	1410		Rel-5	Clarification to Compressed Mode Status	A	5.0.0	5.1.0
R2-021299	agreed	25.331	1411		R99	Clarification of OTDOA quality figure	F	3.10.0	3.11.0
R2-021300	agreed	25.331	1412		Rel-4	Clarification of OTDOA quality figure	А	4.4.0	4.5.0
R2-021301	agreed	25.331	1413		Rel-5	Clarification of OTDOA quality figure	А	5.0.0	5.1.0
R2-021305	agreed	25.331	1414		R99	Correction to Cell Access Restriction for SIB4	F	3.10.0	3.11.0
R2-021306	agreed	25.331	1415		Rel-4	Correction to Cell Access Restriction for SIB4	A	4.4.0	4.5.0
R2-021307	agreed	25.331	1416		Rel-5	Correction to Cell Access Restriction for SIB4	A	5.0.0	5.1.0
R2-021308	agreed	25.331	1417		R99	Corrections concerning spare values and comments	F	3.10.0	3.11.0
R2-021309	agreed	25.331	1418		Rel-4	Corrections concerning spare values and comments	A	4.4.0	4.5.0
R2-021310	agreed	25.331	1419		Rel-5	Corrections concerning spare values and comments	A	5.0.0	5.1.0
R2-021311	agreed	25.331	1420		R99	Removal of the obsolete IE "Transparent mode signalling info"	F	3.10.0	3.11.0
						<no rel-4="" shadow=""></no>			
						<no rel-5="" shadow=""></no>			
R2-021312	agreed	25.331	1421		R99	Variable for shared channel configurations	F	3.10.0	3.11.0
R2-021313	agreed	25.331	1422		Rel-4	Variable for shared channel configurations	A	4.4.0	4.5.0
R2-021314	agreed	25.331	1423		Rel-5	Variable for shared channel configurations	A	5.0.0	5.1.0
R2-021425	agreed	25.331	1424	1	R99	Integrity protection on RB0	F	3.10.0	3.11.0
R2-021426	agreed	25.331	1425	1	Rel-4	Integrity protection on RB0	А	4.4.0	4.5.0
R2-021427	agreed	25.331	1426	1	Rel-5	Integrity protection on RB0	А	5.0.0	5.1.0

						CR-Form-v5	
		CHAN		UES	Т		
^೫ 25	5.331	CR 1408	ж rev	- *	Current vers	^{iion:} <mark>3.10.0</mark> [#]	
For <u>HELP</u> on using	this for	m, see bottom	of this page of	^r look at t	he pop-up text	over the X symbols.	
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network							
Title: ж Cl	arificatio	on to Compres	sed Mode Stat	us Info			
Source: ೫ TS	G-RAN	IWG2					
Work item code: # TE	I				<i>Date:</i> ೫	13. May 2002	
Category: # F Use Deta be f	e <u>one</u> of f F (con A (con B (adc C (fun D (edia ailed exp ound in	the following cat rection) responds to a co lition of feature), ctional modificat torial modificatio blanations of the 3GPP <u>TR 21.90</u>	egories: prrection in an ea ion of feature) n) above categorie <u>0</u> .	arlier relea es can	Release: ₩ Use <u>one</u> of 2 se) R96 R97 R98 R99 REL-4 REL-5	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	
Reason for change: #	 Amble status Status Culture Culture	and mising handling. urrently the same ariable TGPS_I ONTROL and I olds the current e future state of ould lead to corr entioned witho is currently spe- included in the hether the flag current the spec- top in the spec-	me name "TGF DENTITY and PHYSICAL CH t status of the p of the patterns of the	PS Status in severa ANNEL I pattern se after a re procedura anation w UE shall mpresse the corre iguration. s in fact t already a	Flag" is used is al messages lik RECONFIGUR equences while configuration h al descriptions b which one is whi deactivate any d Mode Status sponding patte this could be he intended be	in the UE internal state is MEASUREMENT ATION. The first one is the later ones indicate has taken place. This because both flags are ich. If pattern sequence that Info". It is not checked rn sequence shall be misinterpreted as an ehaviour. It gives the y configured patterns.	
Summary of change: #	The IE "Curre MEAS messa The "T CHAN patter "active The int Backy This C	E "TGPS Status ent TGPS Status GUREMENT Co ages. TGPS Status F INEL RECONF in sequence aff e" / "inactive" to rocedural desc ended behavio ward compatil CR does not int pnality. UF imp	s Flag" in the v us Flag" to dist ONTROL and F FIGURATION r ter the reconfig o "activate" / "c cription in section our. bility analysis end to change olementations t	ASUREM nessages uration. bons 8.4.1 the UE b	GPS_IDENTIT from the IE "To L CHANNEL F IENT CONTRO s indicates the The flags are th e". This is also i .3 and 8.6.6.15	Y is renamed to GPS Status Flag" in the RECONFIGURATION DL and PHYSICAL future status of the herefore renamed from in line with the ASN.1 5 are extended to clarify ould only clarify the are not affected and	

	 they will offer the network all reconfiguration possibilities. UEs which behave differently might permanently deactivate a pattern sequence although the network just intended to align it with a new pattern. The UE could also let the pattern run without the needed alignment, which would probably lead to overlapping compressed mode gaps. If the network is not implemented accordingly then it could only use pattern sequences which do not need re-alignment. 					
Consequences if not approved:	# The description of transmission gap pattern sequence status handling remains unclear. This could potentially lead to wrong implementations and cause overlapping compressed mode pattern sequences.					
Clauses affected:	¥ 8413 86615 103633 103634 13425					
	0.4.1.0, 0.0.0.10, 10.0.0.00, 10.0.0.04, 10.4.20					
Other specs	Contraction # 25.331 v4.4.0, CR 1409					
affected:	Z5.331 v5.0.0, CR 1410					
	O&M Specifications					
Other comments:	¥					

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;
 - 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
 - 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.

- 1> if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
 - 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
 - 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current TGPS Status Flag</u>" in the variable <u>TGPS IDENTITY</u>):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

 - 4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS IDENTITY to "inactive".

- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message.
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence stored in the variable TGPS_IDENTITY corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS IDENTITY to "active" and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:

4> start the concerned pattern sequence immediately at that CFN.

- 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.6.6.15 DPCH Compressed mode info

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current TGPS Status Flag" in</u> the variable TGPS IDENTITY):

2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- <u>32</u>>—_deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
- 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - <u>3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see</u> <u>subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken</u> <u>into use.</u>
 - <u>NOTE:</u> The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> update each pattern sequence to the variable TGPS_IDENTITY according to the IE "TGPSI";
- 1> update into the variable TGPS_IDENTITY the configuration information defined by IE group" transmission gap pattern sequence configuration parameters ";
- 1> after the new configuration has been taken into use:
 - 2> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "<u>Current TGPS status</u> flag" in the variable <u>TGPS_IDENTITY</u> is set to "activate" at the time indicated by IE "TGCFN"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":

3> start the concerned pattern sequence immediately at that CFN.

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified in subclause 8.2.11.2.

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current TGPS Status Flag" in</u> the variable TGPS_IDENTITY):
 - 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:
 - <u>3></u> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use-<u>and</u>
 - 3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to <u>"inactive".</u>
 - 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> after the new configuration has been taken into use:
 - 2> activate, at the time indicated by IE "TGCFN", the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":
 - 3> start the concerned pattern sequence immediately at that CFN.

For transmission gap pattern sequences stored in variable TGPS_IDENTITY, but not identified in IE "TGPSI", the UE shall:

- 1> if the received message implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> deactivate such transmission gap pattern sequences at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message; and
 - 2> set IE "Current TGPS Status Flag" in corresponding UE variable TGPS_IDENTITY to 'inactive'.
- 1> if the received message not implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> continue such transmission gap pattern sequence according to IE "<u>Current TGPS Status Flag</u>" in <u>the</u> corresponding UE variable TGPS_IDENTITY.

Uplink and downlink compressed mode methods are described in [27]. For UL "higher layer scheduling" compressed mode method and transport format combination selection, see [15].

10.3.6.33 DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern	MP	1 to		

Information Element/Group	Need	Multi	Type and	Semantics description
sequence		<maxtgp< th=""><th></th><th></th></maxtgp<>		
TODOL		S>	TODOL	
>TGPSI	MP		10.3.6.82	
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, in <u>de</u> activ <u>ate</u> e)	This flag indicates <u>whether</u> the current status of the Transmission Gap Pattern Sequence , whether it shall be activated or deactivated.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>Transmission gap pattern sequence configuration parameters	OP			
>>TGMP	MP		Enumerated(TDD measuremen t, FDD measuremen t, GSM carrier RSSI measuremen t, GSM Initial BSIC identification, GSM BSIC re- confirmation, Multi-carrier measuremen t)	Transmission Gap pattern sequence Measurement Purpose.
>>TGPRC	MP		Integer (1511, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>>TGSN	MP		Integer (014)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.
>>TGL1	MP		Integer(114)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>>TGL2	MD		Integer (114)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(152 69, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gap within a transmission gap pattern. If there is only one transmission gap in the transmission gap pattern, this parameter shall be set to zero.
>>TGPL1	MP		Integer (1144)	The duration of transmission gap pattern 1.
			(1144)	gap pattern 2. If omitted, then

Information Element/Group	Need	Multi	Type and reference	Semantics description
				TGPL2=TGPL1
>>RPP	MP		Enumerated (mode 0, mode 1).	Recovery Period Power control mode during the frame after the transmission gap within the compressed frame. Indicates whether normal PC mode or compressed PC mode is applied
>>ITP	MP		Enumerated (mode 0, mode 1).	Initial Transmit Power is the uplink power control method to be used to compute the initial transmit power after the compressed mode gap.
>>CHOICE UL/DL mode	MP			
>>>DL only				Compressed mode used in DL only
>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>UL only				Compressed mode used in UL only
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>>UL and DL				Compressed mode used in UL and DL
>>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)
>>DeltaSIRafter1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the second transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase) When omitted, DeltaSIR2 = DeltaSIR1.
>>DeltaSIRafter2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the second

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.
>>N Identify abort	CV-Initial BSIC		Integer(112 8)	Indicates the maximum number of repeats of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure
>>T Reconfirm abort	CV-Re- confirm BSIC		Real(0.510. 0 by step of 0.5)	Indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure. The time is given in steps of 0.5 seconds.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Activ <u>atee</u> " and not needed otherwise.
Initial BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM Initial BSIC identification" and not needed otherwise.
Re-confirm BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM BSIC re-confirmation" and not needed otherwise.

10.3.6.34 DPCH Compressed Mode Status Info

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS reconfiguration CFN	MP		Integer (0255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxtgp S></maxtgp 		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, inde activ <u>ate</u> e)	This flag indicates <u>whether</u> the current status of the Transmission Gap Pattern Sequence , whether it shall be activ <u>ated</u> e or indeactivatede.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

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

11.3 Information element definitions



13.4.25 TGPS_IDENTITY

This variable contains the configuration parameters of a compressed mode transmission gap pattern sequence

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS_IDENTITY	OP		DPCH compressed mode info 10.3.6.33	Information as contained in the IE group "Transmission gap pattern sequence configuration parameters". Cleared when entering UTRA RRC connected mode. Cleared when leaving UTRA RRC connected mode.
Current TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it is active or inactive.

I

		CR-Form-v5
	CHANGE REQUEST	
*	5.331 CR 1409 # rev - [#] Current version:	<mark>4.4.0</mark> ^ж
For <u>HELP</u> on usin	g this form, see bottom of this page or look at the pop-up text over t	the
Proposed change af	ects: # (U)SIM ME/UE X Radio Access Network X	Core Network
Title: ೫	larification to Compressed Mode Status Info	
Source: ೫	SG-RAN WG2	
Work item code: 🕱 🧮	El Date: # 13.	May 2002
Category: # U	e one of the following categories: Use one of the following categories: Use one of the following categories: F (correction) 2 (GSM) A (corresponds to a correction in an earlier release) R96 (Release) B (addition of feature), R97 (Release) C (functional modification of feature) R98 (Release) D (editorial modification) R99 (Release) tailed explanations of the above categories can REL-4 (Release) found in 3GPP TR 21.900. REL-5 (Release)	-4 lowing releases: Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5)
Reason for change:	 Ambiguous and misleading description of transmission gap patter status handling. Currently the same name "TGPS Status Flag" is used in the variable TGPS_IDENTITY and in several messages like MEACONTROL and PHYSICAL CHANNEL RECONFIGURATION holds the current status of the pattern sequences while the latthe future state of the patterns after a reconfiguration has tak could lead to confusion in the procedural descriptions because mentioned without proper explanation which one is which. It is currently specified that the UE shall deactivate any patter is included in the IE "DPCH Compressed Mode Status Info". whether the flag indicates that the corresponding pattern sective or inactive after the configuration. This could be misint error in the specification but it is in fact the intended behavior network the possibility to align already active with newly configuration. 	UE internal state ASUREMENT N. The first one ater ones indicate ken place. This se both flags are ern sequence that It is not checked quence shall be terpreted as an ur. It gives the figured patterns.
Summary of change:	 The IE "TGPS Status Flag" in the variable TGPS_IDENTITY is re "Current TGPS Status Flag" to distinguish it from the IE "TGPS S MEASUREMENT CONTROL and PHYSICAL CHANNEL RECOM messages. The "TGPS Status Flag" in the MEASUREMENT CONTROL and CHANNEL RECONFIGURATION messages indicates the future pattern sequence after the reconfiguration. The flags are therefor "active" / "inactive" to "activate" / "deactivate". This is also in line The procedural description in sections 8.4.1.3 and 8.6.6.15 are e the intended behaviour. Backward compatibility analysis: This CR does not intend to change the UE behaviour, it should o 	enamed to Status Flag" in the NFIGURATION d PHYSICAL status of the re renamed from with the ASN.1 extended to clarify

	they will offer the network all reconfiguration possibilities. UEs which behave differently might permanently deactivate a pattern sequence although the networ just intended to align it with a new pattern. The UE could also let the pattern run without the needed alignment, which would probably lead to overlapping compressed mode gaps. If the network is not implemented accordingly then it could only use pattern sequences which do not need re-alignment.							
Consequences if not approved:	* The description of transmission gap pattern sequence status handling remains unclear. This could potentially lead to wrong implementations and cause overlapping compressed mode pattern sequences.							
Clauses affected:	# 8.4.1.3 , 8.6.6.15, 10.3.6.33, 10.3.6.34, 13.4.25							
Other specs affected:	# Other core specifications # 25.331 v3.10.0, CR 1408 25.331 v5.0.0, CR 1410 Test specifications O&M Specifications							
Other comments:	¥							

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;
 - 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
 - 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.

- 1> if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
 - 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
 - 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current</u> TGPS Status Flag" in the variable TGPS IDENTITY):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

 - 4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS IDENTITY to "inactive".

- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration CFN" received in the message.
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence stored in the variable TGPS_IDENTITY corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS IDENTITY to "active" and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:

4> start the concerned pattern sequence immediately at that CFN.

- 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.6.6.15 DPCH Compressed mode info

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current TGPS Status Flag" in</u> the variable TGPS IDENTITY):

2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- <u>32</u>>—_deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
- 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - <u>NOTE:</u> The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> update each pattern sequence to the variable TGPS_IDENTITY according to the IE "TGPSI";
- 1> update into the variable TGPS_IDENTITY the configuration information defined by IE group" transmission gap pattern sequence configuration parameters ";
- 1> after the new configuration has been taken into use:
 - 2> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "<u>Current TGPS status</u> flag" in the variable <u>TGPS_IDENTITY</u> is set to "activate" at the time indicated by IE "TGCFN"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":

3> start the concerned pattern sequence immediately at that CFN.

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified in subclause 8.2.11.2.

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current TGPS Status Flag" in</u> the variable TGPS_IDENTITY):
 - 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:
 - <u>3></u> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use-<u>and</u>
 - 3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to <u>"inactive".</u>
 - 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> after the new configuration has been taken into use:
 - 2> activate, at the time indicated by IE "TGCFN", the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":
 - 3> start the concerned pattern sequence immediately at that CFN.

For transmission gap pattern sequences stored in variable TGPS_IDENTITY, but not identified in IE "TGPSI", the UE shall:

- 1> if the received message implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> deactivate such transmission gap pattern sequences at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message; and
 - 2> set IE "Current TGPS Status Flag" in corresponding UE variable TGPS_IDENTITY to 'inactive'.
- 1> if the received message not implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> continue such transmission gap pattern sequence according to IE "<u>Current TGPS Status Flag</u>" in <u>the</u> corresponding UE variable TGPS_IDENTITY.

Uplink and downlink compressed mode methods are described in [27]. For UL "higher layer scheduling" compressed mode method and transport format combination selection, see [15].

10.3.6.33 DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern	MP	1 to		

Information Element/Group	Need	Multi	Type and	Semantics description
sequence		<maxtgp< th=""><th></th><th></th></maxtgp<>		
TODOL		S>	TODOL	
>TGPSI	MP		10.3.6.82	
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, in <u>de</u> activ <u>ate</u> e)	This flag indicates <u>whether</u> the current status of the Transmission Gap Pattern Sequence , whether it shall be activated or deactivated.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>Transmission gap pattern sequence configuration parameters	OP			
>>TGMP	MP		Enumerated(TDD measuremen t, FDD measuremen t, GSM carrier RSSI measuremen t, GSM Initial BSIC identification, GSM BSIC re- confirmation, Multi-carrier measuremen t)	Transmission Gap pattern sequence Measurement Purpose.
>>TGPRC	MP		Integer (1511, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>>TGSN	MP		Integer (014)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.
>>TGL1	MP		Integer(114)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>>TGL2	MD		Integer (114)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(152 69, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gap within a transmission gap pattern. If there is only one transmission gap in the transmission gap pattern, this parameter shall be set to zero.
>>TGPL1	MP		Integer (1144)	The duration of transmission gap pattern 1.
			(1144)	gap pattern 2. If omitted, then

Information Element/Group	Need	Multi	Type and reference	Semantics description
				TGPL2=TGPL1
>>RPP	MP		Enumerated (mode 0, mode 1).	Recovery Period Power control mode during the frame after the transmission gap within the compressed frame. Indicates whether normal PC mode or compressed PC mode is applied
>>ITP	MP		Enumerated (mode 0, mode 1).	Initial Transmit Power is the uplink power control method to be used to compute the initial transmit power after the compressed mode gap.
>>CHOICE UL/DL mode	MP			
>>>DL only				Compressed mode used in DL only
>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>UL only				Compressed mode used in UL only
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>>UL and DL				Compressed mode used in UL and DL
>>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)
>>DeltaSIRafter1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the second transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase) When omitted, DeltaSIR2 = DeltaSIR1.
>>DeltaSIRafter2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the second

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.
>>N Identify abort	CV-Initial BSIC		Integer(112 8)	Indicates the maximum number of repeats of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure
>>T Reconfirm abort	CV-Re- confirm BSIC		Real(0.510. 0 by step of 0.5)	Indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure. The time is given in steps of 0.5 seconds.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Activatee" and not needed otherwise.
Initial BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM Initial BSIC identification" and not needed otherwise.
Re-confirm BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM BSIC re-confirmation" and not needed otherwise.

10.3.6.34 DPCH Compressed Mode Status Info

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

Information Element/Group	Need	Multi	Type and	Semantics description
TGPS reconfiguration CFN	MP		Integer (0255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxtgp S></maxtgp 		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, in<u>de</u>activ<u>ate</u> e)	This flag indicates <u>whether</u> the current status of the Transmission Gap Pattern Sequence , whether it shall be activ <u>ated</u> e or indeactivatede.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

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

11.3 Information element definitions



13.4.25 TGPS_IDENTITY

This variable contains the configuration parameters of a compressed mode transmission gap pattern sequence

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS_IDENTITY	OP		DPCH compressed mode info 10.3.6.33	Information as contained in the IE group "Transmission gap pattern sequence configuration parameters". Cleared when entering UTRA RRC connected mode. Cleared when leaving UTRA RRC connected mode.
Current TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it is active or inactive.

I

CR-Form-v5										
ж <mark>с</mark>	<mark>5.331</mark> C	R <mark>1410</mark>	жrev	- #	Current vers	ion: 5.	0.0 [#]			
For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.										
Proposed change af	Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network									
Title: ೫	Clarification t	o Compresse	ed Mode Statu	us Info						
Source: ೫	<mark>rsg-ran w</mark>	G2								
Work item code: 🕷 🔤	ГЕІ				Date: ೫	13. May	y 2002			
Category: ະ ເ	A se <u>one</u> of the s F (correcti A (corresp B (addition C (function D (editoria etailed explan e found in 3GF	following categ on) bonds to a corre n of feature), nal modification I modification) ations of the al P <u>TR 21.900</u> .	gories: ection in an ea n of feature) bove categorie:	rlier releas s can	Release: % Use <u>one</u> of 2 R96 R97 R98 R99 REL-4 REL-5	REL-5 the followi (GSM Pha (Release (Release (Release (Release (Release	ng releases: ase 2) 1996) 1997) 1998) 1999) 4)			
Posson for change:	¥ Ambiquo	is and misles	ading descript	ion of tra	nemission dar	nattern				
Reason for change.	 Annuguou status ha Curre varial CON holds the fu could menti It is c is inc wheth active error 	and index noting. ently the same ole TGPS_ID TROL and PH the current s iture state of lead to confu- lead to confu- to confu- confu- to confu- to confu	e name "TGP ENTITY and HYSICAL CH, status of the p the patterns a usion in the put proper expla ified that the E "DPCH Cor idicates that the fter the config cation but it is	S Status in severa ANNEL R attern se occedural nation wh UE shall on pressection be corres guration.	Flag" is used I messages lik ECONFIGUR quences while configuration h descriptions h nich one is wh deactivate any Mode Status ponding patte This could be ne intended be	in the UE the MEASU ATION. T the later tas taken because the ich. y pattern s Info". It is rn sequer misinterp thaviour. I	internal state JREMENT The first one ones indicate place. This poth flags are sequence that a not checked nce shall be reted as an It gives the			
Summary of change	netwo	GPS Status I	Flag" in the va	ariable T(y configu	red patterns.			
Summary of change.	"Current MEASUR message	TGPS Status EMENT CON s.	Flag" to distin NTROL and P	nguish it f HYSICA	rom the IE "T(L CHANNEL F	GPS State RECONFI	us Flag" in the GURATION			
	The "TGF CHANNE pattern se "active" /	PS Status Fla L RECONFIC equence after "inactive" to "	g" in the MEA GURATION m the reconfigu 'activate" / "de	SUREMI essages uration. T eactivate	ENT CONTRO indicates the he flags are th '. This is also i	DL and PH future sta herefore re in line with	IYSICAL tus of the enamed from h the ASN.1			
	The proce the intend	edural descrip led behaviou	otion in sectio r.	ns 8.4.1.	3 and 8.6.6.15	are exte	nded to clarify			
	Backwar This CR o functiona	d compatibil does not inter lity. UE imple	lity analysis: nd to change mentations th	the UE be at behav	ehaviour, it sh e accordingly	ould only are not al	clarify the ffected and			

	they will offer the network all reconfiguration possibilities. UEs which behave differently might permanently deactivate a pattern sequence although the networ just intended to align it with a new pattern. The UE could also let the pattern run without the needed alignment, which would probably lead to overlapping compressed mode gaps. If the network is not implemented accordingly then it could only use pattern sequences which do not need re-alignment.							
Consequences if not approved:	The description of transmission gap pattern sequence status handling remains unclear. This could potentially lead to wrong implementations and cause overlapping compressed mode pattern sequences.							
Clauses affected:	# 8.4.1.3, 8.6.6.15, 10.3.6.33, 10.3.6.34, 13.4.25							
Other specs affected:	# Other core specifications # 25.331 v3.10.0, CR 1408 25.331 v4.4.0, CR 1409 Test specifications O&M Specifications							
Other comments:	¥							

8.4.1.3 Reception of MEASUREMENT CONTROL by the UE

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in subclause 8.6 unless otherwise specified below.

The UE shall:

- 1> read the IE "Measurement command";
- 1> if the IE "Measurement command" has the value "setup":
 - 2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;
 - 2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":
 - 3> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
 - 3> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 3> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 4> if the measurement is valid in the current RRC state of the UE:
 - 5> begin measurements according to the stored control information for this measurement identity.
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is in CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "OTDOA":
 - 5> if IE "Method Type" is set to "UE assisted":
 - 6> if IE "UE positioning OTDOA assistance data for UE assisted" is not included:
 - 7> if System Information Block type 15.4 is broadcast:
 - 8> read System Information Block type 15.4.
 - 7> act as specified in subclause 8.6.7.19.2.
 - 5> if IE "Method Type" is set to "UE based":
 - 6> if IE "UE positioning OTDOA assistance data for UE based" is not included:
 - 7> if System Information Block type 15.5 is broadcast:
 - 8> read System Information Block type 15.5.
 - 7> act as specified in subclause 8.6.7.19.2a.
 - 2> for any other measurement type:
 - 3> if the measurement is valid in the current RRC state of the UE:
 - 4> begin measurements according to the stored control information for this measurement identity.

- 1> if the IE "Measurement command" has the value "modify":
 - 2> for all IEs present in the MEASUREMENT CONTROL message:
 - 3> if a measurement was stored in the variable MEASUREMENT_IDENTITY associated to the identity by the IE "measurement identity":
 - 4> for measurement types "inter-frequency measurement" that require measurements on a frequency other than the actually used frequency, or that require measurements on another RAT:
 - 5> if, according to its measurement capabilities, the UE requires compressed mode to perform that measurement type and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; and
 - 5> if the IE "Inter-frequency cell info list" for that measurement identity is empty; or
 - 5> if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:
 - 6> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated with the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 6> resume the measurements according to the new stored measurement control information.
 - 4> for any other measurement type:
 - 5> replace the corresponding information stored in variable MEASUREMENT_IDENTITY associated to the identity indicated by the IE "measurement identity" with the one received in the MEASUREMENT CONTROL message;
 - 5> resume the measurements according to the new stored measurement control information.
 - 3> otherwise:
 - 4> set the variable CONFIGURATION_INCOMPLETE to TRUE.
 - 2> for all optional IEs that are not present in the MEASUREMENT CONTROL message:
 - 3> leave the currently stored information elements unchanged in the variable MEASUREMENT_IDENTITY if not stated otherwise for that IE.
- 1> if the IE "measurement command" has the value "release":
 - 2> terminate the measurement associated with the identity given in the IE "measurement identity";
 - 2> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY.
- 1> if the IE "DPCH Compressed Mode Status Info" is present:
 - 2> if, as the result of this message, UE will have more than one transmission gap pattern sequence with the same measurement purpose active (according to IE 'TGMP' in variable TGPS_IDENTITY):

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

- 2> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current</u>TGPS Status Flag" in the variable TGPS IDENTITY):
 - 3> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

 - <u>4> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS IDENTITY to "inactive".</u>

- 3> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - <u>4> deactivate this pattern sequence at the beginning of the frame indicated by IE "TGPS reconfiguration</u> <u>CFN" received in the message.</u>
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 2> after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:
 - 3> activate the pattern sequence stored in the variable TGPS_IDENTITY corresponding to each IE "TGPSI" for which the "TGPS status flag" in this message is set to "activate" at the time indicated by IE "TGCFN"; and
 - 3> set the corresponding "Current TGPS status flag" for this pattern sequence in the variable TGPS IDENTITY to "active" and
 - 3> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 3> if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:

4> start the concerned pattern sequence immediately at that CFN.

- 2> not alter pattern sequences stored in variable TGPS_IDENTITY, if the pattern sequence is not identitifed in IE "TGPSI" in the received message.
- 1> if the UE in CELL_FACH state receives a MEASUREMENT CONTROL message, which indicates the same measurement identity as that stored in the variable MEASUREMENT_IDENTITY:
 - 2> update the stored information with the traffic volume measurement control information in variable MEASUREMENT_IDENTITY; and
 - 2> refrain from updating the traffic volume measurement control information associated with this measurement identity in the variable MEASUREMENT_IDENTITY with the information received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) until this measurement is explicitly released with another MEASUREMENT CONTROL message.
- 1> if the IE "Read SFN indicator" included in the IE "Cell info" of an inter-frequency cell is set to TRUE and the variable UE_CAPABILITY_TRANSFERRED has the DL "Measurement capability" for "FDD measurements" set to TRUE (the UE requires DL compressed mode in order to perform measurements on FDD):
 - 2> set the variable CONFIGURATION_INCOMPLETE to TRUE.
- 1> clear the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

The UE may:

- 1> if the IE "Measurement command" has the value "setup":
 - 2> for measurement type "UE positioning measurement":
 - 3> if the UE is CELL_FACH state:
 - 4> if IE "Positioning Method" is set to "GPS":
 - 5> if IE "UE positioning GPS assistance data" is not included and variable UE_POSITIONING_GPS_DATA is empty:
 - 6> if System Information Block types 15, 15.1, 15.2 and 15.3 are broadcast:
 - 7> read System Information Block types 15, 15.1, 15.2 and 15.3.
 - 6> act as specified in subclause 8.6.7.19.3.
- 1> and the procedure ends.

8.6.6.15 DPCH Compressed mode info

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current</u> TGPS Status Flag"<u>in</u> <u>the variable TGPS_IDENTITY</u>):

2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

- 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - <u>NOTE:</u> The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> update each pattern sequence to the variable TGPS_IDENTITY according to the IE "TGPSI";
- 1> update into the variable TGPS_IDENTITY the configuration information defined by IE group" transmission gap pattern sequence configuration parameters ";
- 1> after the new configuration has been taken into use:
 - 2> activate the stored pattern sequence corresponding to each IE "TGPSI" for which the "<u>Current TGPS status</u> flag" in the variable <u>TGPS_IDENTITY</u> is set to "activate" at the time indicated by IE "TGCFN"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified in subclause 8.2.11.2.

^{3&}gt; start the concerned pattern sequence immediately at that CFN.

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

- 1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "<u>Current</u> TGPS Status Flag"<u>in</u> <u>the variable TGPS_IDENTITY</u>):
 - 2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:
 - <u>3></u> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use- and
 - 3> set the "Current TGPS Status Flag" for this pattern sequence in the variable TGPS_IDENTITY to <u>"inactive".</u>
 - 2> if the "TGPS Status Flag" in this message is set to "activate" for the corresponding pattern sequence:
 - 3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time"(see subclause 8.6.3.1) received in this message, when the new configuration received in this message is taken into use.
 - NOTE: The temporary deactivation of pattern sequences for which the status flag is set to "activate" can be used by the network to align the timing of already active patterns with newly activated patterns.
- 1> after the new configuration has been taken into use:
 - 2> activate, at the time indicated by IE "TGCFN", the stored pattern sequence corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate"; and
 - 2> begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;
 - 2> if the new configuration is taken into use at the same CFN as indicated by IE "TGCFN":
 - 3> start the concerned pattern sequence immediately at that CFN.

For transmission gap pattern sequences stored in variable TGPS_IDENTITY, but not identified in IE "TGPSI", the UE shall:

- 1> if the received message implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> deactivate such transmission gap pattern sequences at the beginning of the frame, indicated by IE "Activation time" (see subclause 8.6.3.1) received in this message; and
 - 2> set IE "Current TGPS Status Flag" in corresponding UE variable TGPS_IDENTITY to 'inactive'.
- 1> if the received message not implies a timing re-initialised hard handover (see subclause 8.3.5.1):
 - 2> continue such transmission gap pattern sequence according to IE "<u>Current</u> TGPS Status Flag" in <u>the</u> corresponding UE variable TGPS_IDENTITY.

Uplink and downlink compressed mode methods are described in [27]. For UL "higher layer scheduling" compressed mode method and transport format combination selection, see [15].

10.3.6.33 DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern	MP	1 to		

Information Element/Group	Need	Multi	Type and	Semantics description
sequence		<maxtgp< th=""><th>Telefence</th><th></th></maxtgp<>	Telefence	
		S>		
>TGPSI	MP		TGPSI 10.3.6.82	
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, indeactivate e)	This flag indicates <u>whether</u> the current status of the Transmission Gap Pattern Sequence , whether it shall be activated or deactivated.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>Transmission gap pattern sequence configuration parameters	OP			
>>TGMP	MP		Enumerated(TDD measuremen t, FDD measuremen t, GSM carrier RSSI measuremen t, GSM Initial BSIC identification, GSM BSIC re- confirmation, Multi-carrier measuremen t)	Transmission Gap pattern sequence Measurement Purpose.
>>TGPRC	MP		Integer (1511, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>>TGSN	MP		Integer (014)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.
>>TGL1	MP		Integer(114)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>>TGL2	MD		Integer (114)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(152 69, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gap within a transmission gap pattern. If there is only one transmission gap in the transmission gap pattern, this parameter shall be set to zero.
>>TGPL1	MP		Integer (1144)	The duration of transmission gap pattern 1.
			(1144)	gap pattern 2. If omitted, then

Information Element/Group	Need	Multi	Type and	Semantics description
				TGPI 2=TGPI 1
>>RPP	MP		Enumerated (mode 0, mode 1).	Recovery Period Power control mode during the frame after the transmission gap within the compressed frame. Indicates whether normal PC mode or compressed PC mode is applied
>>ITP	MP		Enumerated (mode 0, mode 1).	Initial Transmit Power is the uplink power control method to be used to compute the initial transmit power after the compressed mode gap.
>>CHOICE UL/DL mode	MP			
>>>DL only				Compressed mode used in DL only
>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>UL only				Compressed mode used in UL only
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>>UL and DL				Compressed mode used in UL and DL
>>>>Downlink compressed mode method	MP		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>>>>Uplink compressed mode method	MP		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)
>>DeltaSIRafter1	MP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the frame containing the start of the second transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase) When omitted, DeltaSIR2 = DeltaSIR1.
>>DeltaSIRafter2	OP		Real(03 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the frame containing the start of the second

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.
>>N Identify abort	CV-Initial BSIC		Integer(112 8)	Indicates the maximum number of repeats of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure
>>T Reconfirm abort	CV-Re- confirm BSIC		Real(0.510. 0 by step of 0.5)	Indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure. The time is given in steps of 0.5 seconds.

Condition	Explanation
Active	This IE is mandatory present when the value of the IE "TGPS Status Flag" is "Activ <u>atee</u> " and not needed otherwise.
Initial BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM Initial BSIC identification" and not needed otherwise.
Re-confirm BSIC	This IE is mandatory present when the value of the IE "TGMP" is set to "GSM BSIC re-confirmation" and not needed otherwise.

10.3.6.34 DPCH Compressed Mode Status Info

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TGPS reconfiguration CFN	MP		Integer (0255)	Connection Frame Number of the frame where already active Transmission Gap Pattern Sequences shall be deactivated
Transmission gap pattern sequence	MP	1 to <maxtgp S></maxtgp 		
>TGPSI	MP		TGPSI 10.3.6.82	Transmission Gap Pattern Sequence Identifier
>TGPS Status Flag	MP		Enumerated(activ <u>ate</u> e, indeactivate e)	This flag indicates <u>whether</u> the <u>current status of the</u> Transmission Gap Pattern Sequence , whether it shall be activ <u>ated</u> e or <u>inde</u> activ <u>ated</u> e.
>TGCFN	CV-Active		Integer (0255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.

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

11.3 Information element definitions



13.4.25 TGPS_IDENTITY

This variable contains the configuration parameters of a compressed mode transmission gap pattern sequence

Information Element/Group	Need	Multi	Type and	Semantics description
TGPS_IDENTITY	OP		DPCH compressed mode info 10.3.6.33	Information as contained in the IE group "Transmission gap pattern sequence configuration parameters". Cleared when entering UTRA RRC connected mode. Cleared when leaving UTRA RRC connected mode.
Current TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it is active or inactive.

	CR-Form-v5				
CHANGE REQUEST					
ж	25.331 CR 1411 * rev - * Current version: 3.10.0 *				
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	affects: # (U)SIM ME/UE X Radio Access Network Core Network				
Title: #	Clarification of OTDOA quality figure				
Source: #	TSG-RAN WG2				
Work item code: ₩	TEI Date: # 02 May 2002				
Category: ⊮	FRelease: %R99Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5				
Reason for change	: # TS 25.331 supports transfer of quality figures for OTDOA measurements. The				
	currently specified sample standard deviation cannot be used when there are only a few measurements. This CR brings more clarity to the definition of quality figure also when number of measurements is low.				
Summary of chang	 We: # OTDOA quality figure is defined more precisely. The standard deviation of the reported measurement value has been specified as quality figure. This quality figure can be used irrespective of the number of measurements and gives more freedom in determining the best estimate of the measurement quality. No changes proposed to existing coding. Impact analysis: This CR is considered to have isolated impact. If the UE does not implement this CR, it may be difficult to determine a reliable quality figure when number of measurements is low. 				
Consequences if not approved:	Here a set the set of				
Clauses affected:	¥ 10.3.7.107				
Other specs	% Other core specifications % 25.331 v4.4.0, CR 1412 25.331 v5.0.0 CR 1412				
affected:	Test specifications O&M Specifications				
Other comments:	#				

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.
10.3.7.107 UE positioning OTDOA quality

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Std Resolution	MP		Bit string(2)	Std Resolution fieldincludes the resolution usedin Std of OTDOAMeasurements field.Encoding on two bits asfollows:'00'10 meters'01'20 meters'10'30 meters'11'Reserved
Number of OTDOA Measurements	MP		Bit string(3)	Number of measurements field is used together with Std of OTDOA Measurements field to define quality of a reported OTDOA measurement. The 'Number of OTDOA measurements' field indicates how many OTDOA measurements have been used in the UE to determine fine the sample standard deviation of the measurements. Following 3 bit encoding is used: '000' 0-4 '001' 5-9 '010' 10-14 '011' 15-24 '100' 25-34 '101' 35-44 '110' 45-54 '111' 55 or more Special case: '000' In this case the field 'Std of OTDOA measurements' contains the std of the reported SFN- SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where x is the reported value and μ = E[x] is the expectation value (i.e. the true value) of x. This std can be used irrespective of the number of measurements is not needed. Also other measurements such as Ec/No or Rx levels can be utilized in this case to evaluate the 'Std of OTDOA measurements' reported in this IE.

Information Element/Group	Need	Multi	Type and	Semantics description
name			Reference	
Information Element/Group name Std of OTDOA Measurements	Need MP	Multi	Type and Reference Bit string(5)	Semantics description 'Std of OTDOA Measurements field' includes <u>sample</u> standard deviation of OTDOA measurements (when number of measurements is reported in 'Number of OTDOA measurements field') or standard deviation of the reported SFN-SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where <u>x</u> is the reported value and $\mu =$ E[x] is the expectation value (i.e. the true value) of x (when '000' is given in 'Number of OTDOA measurements' field). Following linear 5 bit encoding is used: '00000' 0 - (R*1-1) meters '0001' R*1 - (R*2-1) meters '00010' R*2 - (R*3-1) meters '11111' R*31 meters or
				where R is the resolution defined by Std Resolution field. E.g. R=20 m corresponds to 0-19 m, 20- 39 m 620+ m

		CR-Form-v5					
¥	5.331 CR 1412 # rev - [#] Current version:	4.4.0 [#]					
For HFLP on	a this form see bottom of this page or look at the pop-up text over	the # symbols					
Proposed change	ects: ¥ (U)SIM ME/UE X Radio Access Network	Core Network					
Title: ាំ	Clarification of OTDOA quality figure						
Source: 🖁	SG-RAN WG2						
Work item code: \$	El Date: 第 02	May 2002					
Category: ¥	Release: # RE e one of the following categories: Use one of the following categories: F (correction) 2 A (corresponds to a correction in an earlier release) R96 B (addition of feature), R97 C (functional modification of feature) R98 D (editorial modification) R99 tailed explanations of the above categories can REL-4 found in 3GPP TR 21.900. REL-5	L-4 llowing releases: 1 Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5)					
Reason for chang	# TS 25 331 supports transfer of quality figures for OTDOA measures	surements The					
reason for onang	currently specified sample standard deviation cannot be used y only a few measurements. This CR brings more clarity to the d figure also when number of measurements is low.	when there are efinition of quality					
Summary of chan	 OTDOA quality figure is defined more precisely. The standard reported measurement value has been specified as quality figure figure can be used irrespective of the number of measurement freedom in determining the best estimate of the measurement changes proposed to existing coding. Impact analysis: This CR is considered to have isolated impact. If the implement this CR, it may be difficult to determine a reliable quality for measurements is low. 	deviation of the ire. This quality s and gives more quality. No e UE does not igure when number					
Consequences if not approved:	Difficulties in determining a reliable quality figure when number is low.	of measurements					
Clauses affected:	¥ 10.3.7.107						
Other specs	Contraction # 25.331 v3.10.0, CR 1411 25.331 v5.0.0, CR 1413						
affected:	Test specifications O&M Specifications						
Other comments:	¥						

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Std Resolution	MP		Bit string(2)	Std Resolution field includes the resolution used in Std of OTDOA Measurements field. Encoding on two bits as follows: '00' 10 meters '01' 20 meters '10' 30 meters '11' Reserved
Number of OTDOA Measurements	MP		Bit string(3)	Number of measurements field is used together with Std of OTDOA Measurements field to define quality of a reported OTDOA measurement. The 'Number of OTDOA measurements' field indicates how many OTDOA measurements have been used in the UE to define determine the sample standard deviation of the measurements. Following 3 bit encoding is used: '000' 0-4 '001' 5-9 '010' 10-14 '010' 15-9 '010' 10-14 '010' 25-34 '101' 35-44 '110' 45-54 '111' 55 or more Special case: '000' In this case the field 'Std of OTDOA measurements' contains the std of the reported SFN- SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where x is the reported value and $\mu = E[x]$ is the expectation value (i.e. the true value) of x. This std can be used irrespective of the number of measurements is not needed. Also other measurements such as Ec/No or Rx levels can be utilized in this case to evaluate the 'Std of OTDOA measurements' reported in this IE.

10.3.7.107 UE positioning OTDOA quality

Information Element/Group	Need	Multi	Type and Reference	Semantics description
Std of OTDOA Measurements	MP		Bit string(5)	Std of OTDOA Measurements' field includes sample standard deviation of OTDOA measurements (when number of measurements is reported in 'Number of OTDOA measurements field') or standard deviation of the reported SFN-SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where x is the reported value and μ = E[x] is the expectation value (i.e. the true value) of x (when '000' is given in 'Number of OTDOA measurements' field). Following linear 5 bit encoding is used: '00000' 0 - (R*1-1) meters '00001' R*1 - (R*2-1) meters '00010' R*2 - (R*3-1) meters
				 '11111' R*31 meters or more where R is the resolution defined by Std Resolution field. E.g. R=20 m corresponds to 0-19 m, 20-39 m,,620+ m.

CHANGE REQUEST											
						-	•••	a		_	00
ж 	25.3	8 <mark>31</mark> (CR <mark>1413</mark>	жI	rev	-	ж	Current vers	sion:	5.0.0	ж
For <u>HELP</u> on	using th	is form	, see bottorr	of this pa	ge or	look	at th	e pop-up text	over	the ¥ syr	nbols.
Proposed change	affects	- ¥		MF/UF	X	Radi	io Ac	ccess Networl		Core Ne	etwork
				and liter firm		Tuu					
l Itle: ₹	Clari	ication	OT OT DOA	quality figu	lre						
Source: 3	tsG	RAN V	VG2								
Work item code: भे	tel 🖁							<i>Date:</i> ೫	02	<mark>May 2002</mark>	2
Category: ३	C Detaile be four	<u>ne</u> of the (corred (corred (additi (functi (editor ed expla nd in 30	e following ca ction) sponds to a c on of feature) onal modification inations of the GPP <u>TR 21.90</u>	tegories: prrection in , tion of featu on) above cate <u>0</u> .	an ear ire) egories	rlier re	eleas	Release: % Use <u>one</u> of 2 e) R96 R97 R98 R99 REL-4 REL-5	RE the fo (GSN (Rele (Rele (Rele (Rele (Rele	L-5 Ilowing rel A Phase 2) pase 1996) pase 1997) pase 1998) pase 1999) pase 4) pase 5)	eases:
Reason for chang	ю: Ж	TS 25.	331 support	s transfer o	of qua	lity fi	gure	s for OTDOA	meas	surements	s. The
		current only a figure a	tly specified few measure also when n	sample sta ements. Th umber of m	andaro nis CR neasu	d dev C bring reme	riatio gs m ents i	n cannot be u hore clarity to s low.	ised v the d	when ther efinition o	e are f quality
Summary of chan	ge: ቤ ከ יייייייייייייייייייייייייייייייייי	OTDO. reporte figure o freedoi change mpact a npleme f measu	A quality figured measuren can be used m in determines proposed analysis: This nt this CR, it urements is lo	ure is defin nent value irrespectiv ning the be to existing s CR is com- may be diff w.	ed mo has b ve of th est es codir codir siderec	been s he nu timat ng. d to ha	recis spec umbe e of ave is	ely. The stan ified as qualit or of measure the measurer solated impact.	dard y figu ment nent If the ality f	deviation Ire. This c s and give quality. No e UE does n igure when	of the juality es more o not n number
Consequences if not approved:	ж	Difficul is low.	ties in deter	mining a re	eliable	qual	lity fi	gure when nu	Imber	of measu	urements
Clauses affected:	ж	<mark>10.3.7</mark> .	107								
Other specs	ж	Othe	er core spec	ifications	ж	25.	.331	v3.10.0, CR	1411		
affected:	_	Test O&N	t specificatio ⁄I Specificati	ns ons		25.	.331	v4.4.0, CR 1	412		
Other comments	ж										

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Std Resolution	MP		Bit string(2)	Std Resolution field includes the resolution used in Std of OTDOA Measurements field. Encoding on two bits as follows: '00' 10 meters '01' 20 meters '10' 30 meters '11' Reserved
Number of OTDOA Measurements	MP		Bit string(3)	Number of measurements field is used together with Std of OTDOA Measurements field to define quality of a reported OTDOA measurement. The 'Number of OTDOA measurements' field indicates how many OTDOA measurements have been used in the UE to define determine the sample standard deviation of the measurements. Following 3 bit encoding is used: '000' 0-4 '001' 5-9 '010' 10-14 '010' 15-9 '010' 10-14 '010' 25-34 '101' 35-44 '110' 45-54 '111' 55 or more Special case: '000' In this case the field 'Std of OTDOA measurements' contains the std of the reported SFN- SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where x is the reported value and $\mu = E[x]$ is the expectation value (i.e. the true value) of x. This std can be used irrespective of the number of measurements is not needed. Also other measurements such as Ec/No or Rx levels can be utilized in this case to evaluate the 'Std of OTDOA measurements' reported in this IE.

10.3.7.107 UE positioning OTDOA quality

Information Element/Group	Need	Multi	Type and Reference	Semantics description
Std of OTDOA Measurements	MP		Bit string(5)	Std of OTDOA Measurements' field includes sample standard deviation of OTDOA measurements (when number of measurements is reported in 'Number of OTDOA measurements field') or standard deviation of the reported SFN-SFN otd value = $\sqrt{E[(x-\mu)^2]}$, where x is the reported value and μ = E[x] is the expectation value (i.e. the true value) of x (when '000' is given in 'Number of OTDOA measurements' field). Following linear 5 bit encoding is used: '00000' 0 - (R*1-1) meters '00001' R*1 - (R*2-1) meters '00010' R*2 - (R*3-1) meters
				 '11111' R*31 meters or more where R is the resolution defined by Std Resolution field. E.g. R=20 m corresponds to 0-19 m, 20-39 m,,620+ m.

	CHANGE REQUEST							
[#] 2	25.331 CR 1414 # rev - ^{# Current version:} 3.10.0 [#]							
For <u>HELP</u> on usin	g this form, see bottom of this page or look at the pop-up text over the $#$ symbols.							
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network								
Title: ೫ (Correction to Cell Access Restriction for SIB4							
Source: भ ा	rsg-ran wg2							
Work item code: 🕱 🧧	TEI Date: 米 13 th - May 2002							
Category: # U	Release: %R99se one of the following categories: F (correction)Use one of the following releases: 2A (corresponds to a correction in an earlier release)R96B (addition of feature), C (functional modification of feature)R97C (functional modification)R98D (editorial modification)R99etailed explanations of the above categories can e found in 3GPP TR 21.900.REL-5							
Reason for change:	 In section 8.5.13 of 25.331 it is clearly specified that the Access Classes shall not be used in connected mode. However in the tabular section 10.3.2.1 it is not reflected that the IE "Access Class Barred List" shall be included in the IE "Cell Access Restriction" only when this IE is included in SIB3. Isolated impact analysis: 							
	Corrected functionality is Cell Access Restriction in SIB4							
	« Correction to a function where the specification was :							
	ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. »							
Summary of change:	 It is clarified that the IE "Access Class Barred List" shall not be included in the IE "Cell Access Restriction" when included in SIB4. The correction is done by aligning the tabular on the descriptive section of the specification. 							
Consequences if not approved:	# Ambigous specification							
Clauses affected:	<mark>೫ 10.3.2.1, 11.3</mark>							
Other specs	# Other core specifications # 25.331 v4.4.0, CR 1415							
affected:	X Test specifications O&M Specifications							
Other comments:	ж							

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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.2.1 Cell Access Restriction

Indicates the restrictions to cell access.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Barred	MP		Enumerated(not barred, barred)	
Intra-frequency cell re-selection indicator	CV-Barred		Enumerated(not allowed, allowed)	
T _{barred}	CV-Barred		Integer (10,20,40,80 ,160,320,640 ,1280)	[4] [s]
Cell Reserved for operator use	MP		Enumerated(reserved, not reserved)	
Cell Reservation Extension	MP		Enumerated(reserved, not reserved)	
Access Class Barred list	CV-SIB3- MD-MĐ	maxAC		Default is no access class barred is applied. The first instance of the parameter corresponds to Access Class 0, the second to Access Class 1 and so on up to Access Class 15. UE reads this IE of its access class stored in SIM.
>Access Class Barred	MP		Enumerated(not barred, barred)	

Condition	Explanation
Barred	The IE is mandatory present if the IE "Cell Barred" has the value "Barred"; otherwise the element is not needed in the message.
<u>SIB3-MD</u>	The IE is mandatory and has a default value if the IE "Cell Access Restriction" is included in SIB 3. Otherwise the IE is not needed.

•••

```
_ _
_ _
     UTRAN MOBILITY INFORMATION ELEMENTS (10.3.2)
_ _
AccessClassBarred ::=
                              ENUMERATED {
                                 barred, notBarred }
AccessClassBarredList ::=
                             SEQUENCE (SIZE (maxAC)) OF
                                AccessClassBarred
AllowedIndicator ::=
                            ENUMERATED {
                                 allowed, notAllowed }
CellAccessRestriction ::= SEQUENCE {
                                 CellBarred,
   cellBarred
   cellReservedForOperatorUse
cellReservationExtension
                                 ReservedIndicator,
   cellReservationExtension
                                 ReservedIndicator,
   -- NOTE: IE accessClassBarredList should not be included if the IE CellAccessRestriction
   -- is included in the IE SysInfoType4
                                 AccessClassBarredList
   accessClassBarredList
                                                               OPTIONAL
}
```

	CR-Form-v5.1							
[#] 25	6.331 CR 1415	ж rev - ж (Current version: 4.4.0 [#]					
For <u>HELP</u> on using	For HELP on using this form, see bottom of this page or look at the pop-up text over the $#$ symbols.							
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network								
Title: # Co	prrection to Cell Access Res	striction for SIB4						
Source: ^{# TS}	G-RAN WG2							
Work item code: 🕷 🛛 TE	El		<i>Date:</i>					
Category: X A Use Deta be fo	 <u>one</u> of the following categorie F (correction) A (corresponds to a correction B (addition of feature), C (functional modification of D (editorial modification) ailed explanations of the above ound in 3GPP <u>TR 21.900</u>. 	es: on in an earlier release) feature) e categories can	Release: % REL-4 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)					
Reason for change: अ	In section 8.5.13 of 25.3 be used in connected mo reflected that the IE "Acc Access Restriction" only	31 it is clearly specifie ode. However in the ta cess Class Barred List when this IE is includ	ed that the Access Classes shall not abular section 10.3.2.1 it is not t" shall be included in the IE "Cell led in SIB3.					
Summary of change: ℜ	It is clarified that the IE " "Cell Access Restriction" The correction is done by specification.	Access Class Barred when included in SIE y aligning the tabular	List" shall not be included in the IE 34. on the descriptive section of the					
Consequences if % not approved:	Ambigous specification							
Clauses affected: #	10.3.2.1, 11.3							
Other specs अ affected:	Other core specification X Test specifications O&M Specifications	ons # 25.331 v 25.331 v	3.10.0, CR 1414 5.0.0, CR 1416					
Other comments: ೫								

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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.2.1 Cell Access Restriction

Indicates the restrictions to cell access.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Barred	MP		Enumerated(not barred, barred)	
Intra-frequency cell re-selection indicator	CV-Barred		Enumerated(not allowed, allowed)	
T _{barred}	CV-Barred		Integer (10,20,40,80 ,160,320,640 ,1280)	[4] [s]
Cell Reserved for operator use	MP		Enumerated(reserved, not reserved)	
Cell Reservation Extension	MP		Enumerated(reserved, not reserved)	
Access Class Barred list	CV-SIB3- MD-MĐ	maxAC		Default is no access class barred is applied. The first instance of the parameter corresponds to Access Class 0, the second to Access Class 1 and so on up to Access Class 15. UE reads this IE of its access class stored in SIM.
>Access Class Barred	MP		Enumerated(not barred, barred)	

Condition	Explanation
Barred	The IE is mandatory present if the IE "Cell Barred" has the value "Barred"; otherwise the element is not needed in the message.
<u>SIB3-MD</u>	The IE is mandatory and has a default value if the IE "Cell Access Restriction" is included in SIB 3. Otherwise the IE is not needed.

•••

```
_ _
_ _
     UTRAN MOBILITY INFORMATION ELEMENTS (10.3.2)
_ _
AccessClassBarred ::=
                              ENUMERATED {
                                 barred, notBarred }
AccessClassBarredList ::=
                             SEQUENCE (SIZE (maxAC)) OF
                                AccessClassBarred
AllowedIndicator ::=
                            ENUMERATED {
                                 allowed, notAllowed }
CellAccessRestriction ::= SEQUENCE {
                                 CellBarred,
   cellBarred
   cellReservedForOperatorUse
cellReservationExtension
                                 ReservedIndicator,
   cellReservationExtension
                                 ReservedIndicator,
   -- NOTE: IE accessClassBarredList should not be included if the IE CellAccessRestriction
   -- is included in the IE SysInfoType4
                                 AccessClassBarredList
   accessClassBarredList
                                                               OPTIONAL
}
```

CR-Form-v5.1										
[#] 25	.331 CR 1416	¥rev - [⊮]	Current version: 5.0.0 *							
For <u>HELP</u> on using	this form, see bottom of	this page or look at	the pop-up text over the % symbo	ols.						
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network										
Title: ೫ Co	prrection to Cell Access R	Restriction for SIB4								
Source: % TS	G-RAN WG2									
Work item code: ೫ TE	1		Date:							
Category: # A Use Deta be fo	 <u>one</u> of the following categor <i>F</i> (correction) <i>A</i> (corresponds to a corredistry <i>B</i> (addition of feature), <i>C</i> (functional modification) <i>D</i> (editorial modification) ailed explanations of the about the addition of the add	ories: ction in an earlier relea of feature) ove categories can	Release: %REL-5Use one of the following release2(GSM Phase 2)vase)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)REL-4(Release 4)REL-5(Release 5)	es:						
Reason for change: अ	In section 8.5.13 of 25 be used in connected reflected that the IE "A Access Restriction" on	.331 it is clearly spe mode. However in t ccess Class Barred ly when this IE is in	ecified that the Access Classes sha he tabular section 10.3.2.1 it is not List" shall be included in the IE "C icluded in SIB3.	all not t Cell						
Summary of change: # It is clarified that the IE "Access Class Barred List" shall not be included in the I "Cell Access Restriction" when included in SIB4. The correction is done by aligning the tabular on the descriptive section of the specification.										
Consequences if अ not approved:	Ambigous specification	n								
Clauses affected: #	10.3.2.1, 11.3									
Other specs ೫ affected:	Other core specifica X Test specifications O&M Specifications	ations # 25.3 25.3	31 v3.10.0, CR 1414 31 v4.4.0, CR 1415							
Other comments: ೫										

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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.2.1 Cell Access Restriction

Indicates the restrictions to cell access.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Barred	MP		Enumerated(not barred, barred)	
Intra-frequency cell re-selection indicator	CV-Barred		Enumerated(not allowed, allowed)	
T _{barred}	CV-Barred		Integer (10,20,40,80 ,160,320,640 ,1280)	[4] [s]
Cell Reserved for operator use	MP		Enumerated(reserved, not reserved)	
Cell Reservation Extension	MP		Enumerated(reserved, not reserved)	
Access Class Barred list	CV-SIB3- MD-MĐ	maxAC		Default is no access class barred is applied. The first instance of the parameter corresponds to Access Class 0, the second to Access Class 1 and so on up to Access Class 15. UE reads this IE of its access class stored in SIM.
>Access Class Barred	MP		Enumerated(not barred, barred)	

Condition	Explanation
Barred	The IE is mandatory present if the IE "Cell Barred" has the value "Barred"; otherwise the element is not needed in the message.
<u>SIB3-MD</u>	The IE is mandatory and has a default value if the IE "Cell Access Restriction" is included in SIB 3. Otherwise the IE is not needed.

•••

```
_ _
_ _
     UTRAN MOBILITY INFORMATION ELEMENTS (10.3.2)
_ _
AccessClassBarred ::=
                              ENUMERATED {
                                 barred, notBarred }
AccessClassBarredList ::=
                             SEQUENCE (SIZE (maxAC)) OF
                                AccessClassBarred
AllowedIndicator ::=
                            ENUMERATED {
                                 allowed, notAllowed }
CellAccessRestriction ::= SEQUENCE {
                                 CellBarred,
   cellBarred
   cellReservedForOperatorUse
cellReservationExtension
                                 ReservedIndicator,
   cellReservationExtension
                                 ReservedIndicator,
   -- NOTE: IE accessClassBarredList should not be included if the IE CellAccessRestriction
   -- is included in the IE SysInfoType4
                                 AccessClassBarredList
   accessClassBarredList
                                                               OPTIONAL
}
```

CHANGE REQUEST										
ж	<mark>25.331</mark>	CR <mark>1417</mark>	жrev	- *	Current vers	^{ion:} 3.10.0 [#]				
For HELP on using this form, see bottom of this page or look at the pop-up text over the <i>#</i> symbols.										
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network										
Title: ೫	Correction	ns concerning s	pare values ar	nd comme	ents					
Source: ೫	TSG-RAN	IWG2								
Work item code: #	TEI				<i>Date:</i>	2002-05-16				
Category: #	F Use <u>one</u> of t F (corr A (corr B (ada C (fund D (edit Detailed exp be found in 3 S S S S S S S S S S S S S S S S S S S	the following cate rection) responds to a col- lition of feature), ctional modification olanations of the 3GPP <u>TR 21.900</u> changes in this n IE "SIBSb-Ty previous CR on pare value for the for IE "Paging re SN.1 concerni- ligning the tabut A previous CR re egarding the tabut for his has been co- comment into a	egories: rrection in an ear on of feature) above categories catego	rlier releas s can ed for the e undefin This has code poir ntifier" the for spare .1 nged a ge "TPC ste anging th comment	Release: # Use <u>one</u> of 2 R96 R97 R98 R99 REL-4 REL-5 e following rea ed code points been correctent t tabular was r e tabular was r e values. This f eneral comment e comment fro again	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) sons: s was overlooked in a d by introducing a not aligned with the has been corrected by nt in the ASN.1 comment for TDD only om a TDD specific				
Summary of change	e: # The f • C • F • T • T • T • T • T • T • T • T • T • T	following chang One missing spatiation For IE "Paging r beeded has bee The comment th been changed for act analysis: <u>cted functionality</u> <u>ection type</u> : Cla Id not affect importations sup perability:	es are included are value has b ecord type iden in removed from at the actual v from a TDD spe ty: Power cont with an addition rification of a from poporting the co	d in the o been add ntifier" the m the tab alue TPC ecific com rol both fe nal SIB ty unction w behaving rrected fu	riginal version ed for SIBSb-1 e statement the ular S-StepSizeTDE ment into an F or FDD and TE pe here the speci like indicated unctionality oth	of this CR: TypeAndTag at two spare values are D = IE value + 1 has FDD specific comment DD. Future extension o ification is incorrect. in the CR, would affect herwise				

	 Isolated impact: the impact is isolated; only the corrected functionality is affected Spare: the impact is not noted until the 3rd new SIB types is introduced. In that case all UEs will support the new SIB type except for the UEs conforming to the 3.10.0 version of 25.331. These UEs will ignore the new SIB type TPC step size: it is most likely that implementations will support the change proposed in this CR since the error was introduced in the 3.10.0 version of 25.331. Furthermore, the error is obvious from the value ranges in tabular in ASN.1. However, if the UE and UTRAN are misaligned regarding the actual value of the signalled IE power control may not work (TPC step size is interpret to be 0) or may not work very well 						
Consequences if # not approved:	An extension option for system information is waisted and a specification error remains that may result in no or poor power control						
Olawaaa affa ata da 🛛							
Clauses affected: #	10.3.1.10, 11.3						
Other specs #	Other core specifications # 25.331 v4.4.0, CR 1418 25.331 v5.0.0, CR 1419						
affected:	Test specifications O&M Specifications						
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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.1.10 Paging record type identifier

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Paging record type identifier	MP		Enumerated (IMSI (GSM- MAP), TMSI (GSM-MAP)/ P-TMSI, IMSI (DS- 41), TMSI (DS-41))	Three spare values are needed.

InformationElements DEFINITIONS AUTOMATIC TAGS ::=

<Cut until the next modified version>

TPC-CombinationIndex ::= INTEGER (0..5)

-- Actual value TPC-StepSizeFDD = IE value + 1 TPC-StepSizeFDD ::= INTEGER (0..1)

-- Actual value TPC-StepSizeTDD = IE value + 1 TPC-StepSizeTDD ::= INTEGER (1..3)

 OTHER INFORMATION ELEMENTS (10.3.8)
 *

<Cut until the next modified version>

SIBSb-TypeAndTag ::=	CHOICE {
sysInfoTypel	PLMN-ValueTag,
sysInfoType2	CellValueTag,
sysInfoType3	CellValueTag,
sysInfoType4	CellValueTag,
sysInfoType5	CellValueTag,
sysInfoType6	CellValueTag,
sysInfoType7	NULL,
sysInfoType8	CellValueTag,
sysInfoType9	NULL,
sysInfoType10	NULL,
sysInfoType11	CellValueTag,
sysInfoType12	CellValueTag,
sysInfoType13	CellValueTag,
sysInfoType13-1	CellValueTag,
sysInfoType13-2	CellValueTag,
sysInfoType13-3	CellValueTag,
sysInfoType13-4	CellValueTag,
sysInfoType14	NULL,
sysInfoType15	CellValueTag,
sysInfoType16	PredefinedConfigIdentityAndValueTag,
sysInfoType17	NULL,
sysInfoTypeSB1	CellValueTag,
sysInfoTypeSB2	CellValueTag,
sysInfoType15-1	CellValueTag,
sysInfoType15-2	${\tt SIBOccurrenceIdentityAndValueTag},$
sysInfoType15-3	SIBOccurrenceIdentityAndValueTag,
sysInfoType15-4	CellValueTag,
sysInfoType18	CellValueTag,
sysInfoType15-5	CellValueTag,
spare3	NULL,
spare2	NULL,
sparel	NULL
}	

CR-Form-v5.1 CHANGE REQUEST									
æ	25	<mark>.331</mark>	CR 1418	жrе	€V	- *	Current vers	^{ion:} 4.4.	<mark>0</mark> ж
For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.									
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network									
Title: ೫	Со	rrectio	ns concerning	spare value	<mark>s anc</mark>	<mark>d comme</mark> l	nts		
Source: अ	TS	G-RAI	WG2						
Work item code: %	TE	l					Date: ೫	2002-05-1	6
Category: ₩	A Use Deta be fo	one of F (cor A (cor B (ada C (fun D (edu iled ex bund in	the following cat rection) responds to a co dition of feature), ctional modificat torial modificatio planations of the 3GPP <u>TR 21.90</u>	egories: prrection in ar ion of feature n) above categ <u>0</u> .	n earl e) jories	<i>ier release</i> can	Release: % Use <u>one</u> of 2 9) R96 R97 R98 R99 REL-4 REL-5	REL-4 the following (GSM Phase (Release 199 (Release 199 (Release 199 (Release 4) (Release 5)	releases: 2) 96) 97) 98) 99)
 Reason for change: # In IE "SIBSb-TypeAndTag" one undefined code points was overlooked in a previous CR on spare values. This has been corrected by introducing a spare value for this undefined code point For IE "Paging record type identifier" the tabular was not aligned with the ASN.1 concerning the needed for spare values. This has been corrected by aligning the tabular to the ASN.1 A previous CR mistakenly changed a general comment in the ASN.1 regarding the actual size for IE "TPC step size" into a comment for TDD only. This has been corrected by changing the comment from a TDD specific comment into a FDD specific comment again 									
Summary of chang	уе: Ж	The •	following chang One missing sp For IE "Paging needed has be The comment to been changed	ges are inclu pare value h record type en removec hat the actu from a TDD	uded ias be iden I from ial va spec	in the ori een adde tifier" the the tabu lue TPC- cific comm	ginal version d for SIBSb- ⁻ statement th lar StepSizeTDI nent into an I	of this CR: TypeAndTag at two spare D = IE value FDD specific	values are + 1 has comment
Consequences if not approved:	ж	An e rema	xtension option ains that may re	n for system esult in no o	infoi pr poc	rmation is or power o	waisted and control	a specificat	ion error
Clauses affected:	ж	10.3	.1.10, 11.3						
Other specs affected:	ж		ther core speci est specification &M Specification	fications ns ons	ж	25.331 25.331	v3.10.0, CR v5.0.0, CR 14	1417 419	

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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.1.10 Paging record type identifier

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Paging record type identifier	MP		Enumerated (IMSI (GSM- MAP), TMSI (GSM-MAP)/ P-TMSI, IMSI (DS- 41), TMSI (DS-41))	Three spare values are needed.

InformationElements DEFINITIONS AUTOMATIC TAGS ::=

<Cut until the next modified version>

TPC-CombinationIndex ::= INTEGER (0..5)

-- Actual value TPC-StepSizeFDD = IE value + 1 TPC-StepSizeFDD ::= INTEGER (0..1)

-- Actual value TPC-StepSizeTDD = IE value + 1 TPC-StepSizeTDD ::= INTEGER (1..3)

 OTHER INFORMATION ELEMENTS (10.3.8)
 *

<Cut until the next modified version>

SIBSb-TypeAndTag ::=	CHOICE {			
sysInfoTypel	PLMN-ValueTag,			
sysInfoType2	CellValueTag,			
sysInfoType3	CellValueTag,			
sysInfoType4	CellValueTag,			
sysInfoType5	CellValueTag,			
sysInfoType6	CellValueTag,			
sysInfoType7	NULL,			
sysInfoType8	CellValueTag,			
sysInfoType9	NULL,			
sysInfoType10	NULL,			
sysInfoType11	CellValueTag,			
sysInfoType12	CellValueTag,			
sysInfoType13	CellValueTag,			
sysInfoType13-1	CellValueTag,			
sysInfoType13-2	CellValueTag,			
sysInfoType13-3	CellValueTag,			
sysInfoType13-4	CellValueTag,			
sysInfoType14	NULL,			
sysInfoType15	CellValueTag,			
sysInfoType16	PredefinedConfigIdentityAndValueTag,			
sysInfoType17	NULL,			
sysInfoTypeSB1	CellValueTag,			
sysInfoTypeSB2	CellValueTag,			
sysInfoType15-1	CellValueTag,			
sysInfoType15-2	${\tt SIBOccurrenceIdentityAndValueTag},$			
sysInfoType15-3	SIBOccurrenceIdentityAndValueTag,			
sysInfoType15-4	CellValueTag,			
sysInfoType18	CellValueTag,			
sysInfoType15-5	CellValueTag,			
spare3	NULL,			
spare2	NULL,			
sparel	NULL			
}				

CHANGE REQUEST										
[#] 2	5.331 CR 1419 # rev - [#] Current version	^{n:} 5.0.0 [#]								
For <u>HELP</u> on usin	this form, see bottom of this page or look at the pop-up text ov	ver the X symbols.								
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network										
Title: ೫ 🤇	prrections concerning spare values and comments									
Source: # 1	G-RAN WG2									
Work item code: 🕷 🧧	<mark>ا Date: ೫ 2</mark>	2002-05-16								
Category: # U U De be	Release: % Release: % e one of the following categories: Use one of the F (correction) 2 (Gamma and and and and and and and and and an	REL-5 a following releases: SM Phase 2) belease 1996) belease 1997) belease 1998) belease 1999) belease 4) belease 5)								
Reason for change:	 The changes in this CR are proposed for the following reasons: In IE "SIBSb-TypeAndTag" one undefined code points was overlooked in a previous CR on spare values. This has been corrected by introducing a spare value for this undefined code point For IE "Paging record type identifier" the tabular was not aligned with the ASN.1 concerning the needed for spare values. This has been corrected by aligning the tabular to the ASN.1 A previous CR mistakenly changed a general comment in the ASN.1 regarding the actual size for IE "TPC step size" into a comment for TDD only. This has been corrected by changing the comment from a TDD specific comment into a FDD specific comment again 									
Summary of change:	 The following changes are included in the original version of this CR: One missing spare value has been added for SIBSb-TypeAndTag For IE "Paging record type identifier" the statement that two spare values are needed has been removed from the tabular The comment that the actual value TPC-StepSizeTDD = IE value + 1 has been changed from a TDD specific comment into an FDD specific comment 									
Consequences if not approved: * An extension option for system information is waisted and a specification error remains that may result in no or poor power control										
Clauses affected:	10.3.1.10, 11.3									
Other specs affected:	Other core specifications # 25.331 v3.10.0, CR 141 25.331 v4.4.0, CR 1418 Test specifications 0.8M Specifications	17 3								

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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

10.3.1.10 Paging record type identifier

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Paging record type identifier	MP		Enumerated (IMSI (GSM- MAP), TMSI (GSM-MAP)/ P-TMSI, IMSI (DS- 41), TMSI (DS-41))	Three spare values are needed.

InformationElements DEFINITIONS AUTOMATIC TAGS ::=

<Cut until the next modified version>

TPC-CombinationIndex ::= INTEGER (0..5)

-- Actual value TPC-StepSizeFDD = IE value + 1 TPC-StepSizeFDD ::= INTEGER (0..1)

-- Actual value TPC-StepSizeTDD = IE value + 1 TPC-StepSizeTDD ::= INTEGER (1..3)

 OTHER INFORMATION ELEMENTS (10.3.8)
 *

<Cut until the next modified version>

SIBSb-TypeAndTag ::=	CHOICE {
sysInfoTypel	PLMN-ValueTag,
sysInfoType2	CellValueTag,
sysInfoType3	CellValueTag,
sysInfoType4	CellValueTag,
sysInfoType5	CellValueTag,
sysInfoType6	CellValueTag,
sysInfoType7	NULL,
sysInfoType8	CellValueTag,
sysInfoType9	NULL,
sysInfoType10	NULL,
sysInfoType11	CellValueTag,
sysInfoType12	CellValueTag,
sysInfoType13	CellValueTag,
sysInfoType13-1	CellValueTag,
sysInfoType13-2	CellValueTag,
sysInfoType13-3	CellValueTag,
sysInfoType13-4	CellValueTag,
sysInfoType14	NULL,
sysInfoType15	CellValueTag,
sysInfoType16	PredefinedConfigIdentityAndValueTag,
sysInfoType17	NULL,
sysInfoTypeSB1	CellValueTag,
sysInfoTypeSB2	CellValueTag,
sysInfoType15-1	CellValueTag,
sysInfoType15-2	${\tt SIBOccurrenceIdentityAndValueTag},$
sysInfoType15-3	SIBOccurrenceIdentityAndValueTag,
sysInfoType15-4	CellValueTag,
sysInfoType18	CellValueTag,
sysInfoType15-5	CellValueTag,
spare3	NULL,
spare2	NULL,
sparel	NULL
}	

			CHAN	IGE RI	EQ	JEST		CR-Form-v5.
*	25	.331	CR 1420	ж г	ev	- #	Current vers	^{ion:} 3.10.0 [#]
For <u>HELP</u> on u	ising	this fo	rm, see bottom	of this pag	e or l	ook at the	e pop-up text	over the X symbols.
Proposed change	affec	ts: ¥	(U)SIM	ME/UE		Radio Ac	cess Networl	Core Network
Title: ೫	Re	moval	of obsolete IE "	Transpare	nt mo	<mark>de signa</mark>	lling info"	
Source: ೫	TS	G-RAI	NWG2					
Work item code: अ	TE	l					Date: ೫	2002-05-16
Category: ⊮	F Use Deta be fo	one of F (con A (con B (ad C (fur D (ed iled ex ound in	the following cate rection) responds to a co dition of feature), actional modification torial modification planations of the 3GPP <u>TR 21.900</u>	egories: rrection in a on of featur 1) above categ	n earl e) gories	<i>ier release</i> can	Release: ¥ Use <u>one</u> of 2 9) R96 R97 R98 R99 REL-4 REL-5	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)
Reason for change: # The IE "Transparent mode signalling info" will not be used in future and th is best removed completely from 25.331. This will ease referring to 25.331 messages in other specifications e.g. the test specifications (e.g. default messages contents). Moreover, this approach is in accordance with the guidelines for removal of IEs, as specified in TR 25.921.				ferring to 25.331 s (e.g. default dance with the				
Summary of change: # The original version of this CR included the following changes: • The IE "Transparent mode signalling info" is best removed from the tabul and the procedure specifications. (Note that the definitions & the dummy the ASN.1 are kept for backwards compatibility) Impact analysis: Impacted functionality: None; currently it is stated that this IE is not used in the version of the protocol Impact on test specifications: Currently T1 specifications specify for several messages that the IE is not present. Removal of the IE from T1 specifications covered by another CR					nges: oved from the tabular itions & the dummy in a IE is not used in this specify for several om T1 specifications is			
Consequences if not approved:	ж	Pote	ential problems i	n other sp	ecific	ations ref	erring to 25.3	31 messages
Clauses affected:	ж	8.6.	5 <mark>.6, 10.3.5.1, 10</mark>	.3.5.17				
Other specs affected:	ж	0 X 0	ther core specif est specification &M Specificatio	ications Is ns	ж	No char No char	nge to 25.331 nge to 25.331	v4.4.0! v5.0.0!

Other comments: %

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

8.6.5.6 Added or Reconfigured DL TrCH information

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

- 1> if the choice "DL parameters" is set to 'explicit':
 - 2> perform the actions for the IE "Transport Format Set" as specified in subclause 8.6.5.1.
- 1> if the choice "DL parameters" is set to 'same as uplink':
 - 2> if the IE "UL Transport Channel Identity" indicates an existing or a new UL Transport Channel:
 - 3> store as transport format for this transport channel the transport format associated with the transport channel identified by the IE "UL Transport Channel Identity".

2> else:

3> set the variable INVALID_CONFIGURATION to TRUE.

1> if the IE "DCH quality target" is included:

2> perform the actions specified in subclause 8.6.5.4.

1> if the IE "Transparent mode signalling info" is included:

2> ignore the IE "Transparent mode signalling info".

10.3.5.1	Added or Reconfigured DL TrCH information	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Downlink transport channel type	MP		Enumerated(DCH,DSCH)	
DL Transport channel identity	MP		Transport channel identity 10.3.5.18	
CHOICE DL parameters				
>Explicit				
>>TFS	MP		Transport Format Set 10.3.5.23	
>SameAsUL				
>>Uplink transport channel type	MP		Enumerated(DCH,USCH)	USCH is TDD only
>>UL TrCH identity	MP		Transport channel identity 10.3.5.18	Same TFS applies as specified for indicated UL TrCH
DCH quality target	OP		Quality target 10.3.5.10	
Transparent mode signalling info	OP		Transparent mode signalling info 10.3.5.17	This IE should not be included in this version of the protocol.

10.3.5.17 Transparent mode signalling infoVoid

This IE is not used in this version of the protocol.

	CR-Form-v5.1			
¥	25.331 CR 1421 * rev - ^{* Current version:} 3.10.0			
For <u>HELP</u> on usi	ng this form, see bottom of this page or look at the pop-up text over the $#$ symbols.			
Proposed change af	fects: # (U)SIM ME/UE X Radio Access Network Core Network			
Title: ೫	Variable for shared channel configurations			
Source: ೫	TSG-RAN WG2			
Work item code: #	TEI Date: ೫ 2 May 2002			
Category: ೫ ℓ	FRelease: %R99Jse one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99D (editorial modification)R99D (editorial modification)R99D (editorial modification)R199D (editorial modification)R299D (editorial modification)R209D (editorial modification)R209			
Reason for change:	# In the clause 8.2.7.3 (Reception of a PHYSICAL SHARED CHANNEL			
ALLOCATION message by the UE) as well as in the clause 8.2.8.3 (PUSC ALLOCATION message by the UE) as well as in the clause 8.2.8.3 (PUSC CAPACITY REQUEST message contents to set) PDSCH and PUSCH are configured, these configuration are stored and reused. Anyhow, there is n defined where to store these configurations (and in what format) in the UE that is misleading if they are referenced later. 14.1.3.2 Within event 1h, the phrase with "sent reports" does not apply The variabl TRIGGERED_1H_EVENT does not contain the IE "sent reports". It is pro- to remove this phrase.				
Summary of change	 ** New UE variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION is introduced in the clause 13.4.X with all the configuration information needed. Further the descriptions of procedures referring to the stored configurations are corrected accordingly in the clauses 8.2.7.3 and 8.2.8.3. 14.1.3.2 It is proposed to remove the phrase concerning "sent reports". 			
	Isolated Impact Analysis:			
	Correction to a function where the specification was:			
	ambiguous or not sufficiently explicit.			
	Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.			
	Affected function: Storing the PDSCH and PUSCH configurations in UE and referencing them within the specification. Affect only the UE side.			

		The evaluation of event 1h would not be affected by this change, because since the IE "sent reports" doesn't exist in variable TRIGGERED_1H_EVENT, it wasn't possible to use it in current implementations.				
Consequences if not approved:	ж	Misleading specification - refer	encir	ng of stored configurations.		
		Misleading specification - refer	encir	a a non specified IF in a variable could lead		
		to on unpredictable UE behavior				
		to an unpredictable OE benavio	our.			
Clauses affected:	ж	8.2.7.3, 8.2.8.3, 13.4.x (new), 1	14.1.:	3.2		
Other specs	æ	Other core specifications	æ	25 331 v4 4 0 CR 1422		
Other spees		Other core specifications	00	25.001 VF.4.0, OIC 1422		
	-			25.551 V5.0.0, GR 1425		
affected:	I est specifications					
		O&M Specifications				
	-	-				
Other comments:	ж					

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

- 1> check the DSCH-RNTI to see if the UE is addressed by the message;
- 1> if the UE is addressed by the message, or if the message is received on the downlink DCCH:

2> perform the following actions.

1> otherwise:

2> ignore the message.

- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
- 1> if the IE "ISCP Timeslot list" is included:

2> store the timeslot numbers given there for future Timeslot ISCP measurements and reports in the variable <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u>.

- 1> if the IE "PDSCH capacity allocation info" is included:
 - 2> configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:
 - 3> if the CHOICE "Configuration" has the value "Old configuration":
 - 4> if the UE has stored a PDSCH configuration <u>in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u> with the identity given by the IE "PDSCH Identity":

5> configure the physical resources according to that configuration.

- 4> otherwise:
 - 5> ignore the IE "PDSCH capacity allocation info".
- 3> if the CHOICE "Configuration" has the value "New configuration":
 - 4> configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":
 - 5> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u><u>specified in the previous "PHYSICAL</u> <u>SHARED CHANNEL ALLOCATION" message</u> for this CCTrCH.
 - 4> if the IE "PDSCH Identity" is included:

5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.

- 2> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
- 2> if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":

3> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.

- 2> if the IE "PUSCH capacity allocation info" is included:
- 2> stop the timer T310, if running;

2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":

3> start the timer T311.

- 2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":
 - 3> stop the timer T311, if running;
 - 3> configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:
 - 4> if the CHOICE "Configuration" has the value "Old configuration":
 - 5> if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity"<u>in</u> the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION:
 - 5> configure the physical resources according to that configuration.
 - 5> otherwise:
 - 5> ignore the IE "PUSCH capacity allocation info".
 - 4> if the CHOICE "Configuration" has the value "New configuration", the UE shall:
 - 5> configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":
 - 6> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION specified in the previous</u> <u>"PHYSICAL SHARED CHANNEL ALLOCATION" message</u> for this CCTrCH.
 - 5> if the IE "PUSCH Identity" is included:
 - 5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.
 - 3> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
 - 3> if the IE "Traffic volume report request " is included:
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".
 - 3> if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- 1> determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;
- 1> configure the MAC-c/sh in the UE with this TFCS restriction if necessary;
- 1> transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.
- NOTE: If the UE has just entered a new cell and System Information Block Type 6has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

- 1> clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;
- 1> and the procedure ends.

[...]

8.2.8.3 PUSCH CAPACITY REQUEST message contents to set

With one PUSCH CAPACITY REQUEST message, capacity for one or more USCH can be requested. It shall include these information elements:

- 1> C-RNTI to be used as UE identity if the message is sent on RACH;
- 1> Traffic volume measured results for each radio bearer satisfying the reporting criteria as specified in the MEASUREMENT CONTROL procedure (if no radio bearer satisfies the reporting criteria, traffic volume measured results shall not be included). These results shall include:
 - 2> Radio Bearer ID of the Radio Bearer being reported;
 - 2> RLC buffer payload for these radio bearers, as specified by the MEASUREMENT CONTROL procedure.

The UE shall:

- 1> if the initiation of the procedure is triggered by the IE "Traffic volume report request" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> report the traffic volume measurement result for the radio bearer mapped on USCH transport channel specified in the received message. These results shall include:
 - 3> Radio Bearer ID of the Radio Bearer being reported;
 - 3> RLC buffer payload for this radio bearer.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PDSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message and the IE "PUSCH capacity allocation info" is present in this message:
 - 2> set the CHOICE "Allocation confirmation" to "PDSCH Confirmation" with the value given in the IE "PDSCH Identity" <u>stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u> in the received message.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PUSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> set the CHOICE "Allocation confirmation" to "PUSCH Confirmation" with the value given in the IE "PUSCH Identity" stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION in the received message.
- 1> if the variable PROTOCOL_ERROR_REJECT is set to TRUE:
 - 2> include the IE "RRC transaction identifier" in the response message transmitted below; and
 - 2> set it to the value of "RRC transaction identifier" in the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Rejected transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry;
 - 2> set the IE "protocol error indicator" to TRUE;
 - 2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.
- 1> if the value of the variable PROTOCOL_ERROR_ REJECT is FALSE:
 - 2> set the IE "Protocol error indicator" to FALSE.

As an option, the message may include IE "Timeslot ISCP" and IE "Primary CCPCH RSCP".

The timeslots for which "Timeslot ISCP" may be reported shall have been configured with a previous PHYSICAL SHARED CHANNEL ALLOCATION message and stored in the variable PHYSICAL SHARED_CHANNEL_CONFIGURATION.

"Primary CCPCH RSCP" is reported when requested with a previous PHYSICAL SHARED CHANNEL ALLOCATION message.

13.4.X PHYSICAL_SHARED_CHANNEL_CONFIGURATION

This variable is used only for TDD to store information about the physical shared channel configuration in the UE. Cleared when entering and leaving UTRA RRC connected mode.

Information Element/Group	Need	<u>Multi</u>	Type and	Semantics description
name			<u>reference</u>	
PUSCH configuration	OP			
>PUSCH info	MP		PUSCH info	
			10.3.6.63	
>PUSCH Identity	<u>OP</u>		Integer(1	
			hiPUSCHide	
			<u>ntities)</u>	
>PUSCH power control info	<u>OP</u>		PUSCH	
			power	
			control info	
			10.3.6.65	
PDSCH configuration	OP			
>PDSCH Info	MP		PDSCH Info	
			10.3.6.44	
>PDSCH Identity	OP		Integer(1hi	
			PDSCHident	
			ities)	
>PDSCH power control info	<u>OP</u>		PDSCH	
			power	
			control info	
			<u>10.3.6.45</u>	
ISCP Timeslot list	OP	<u>1 to</u>		
		maxTS		
>Timeslot number	MP		Timeslot	Timeslot numbers, for which
			number	the UE shall report the timeslot
			10.3.6.84	ISCP in PUSCH CAPACITY
				REQUEST message

14.1.3.2 Reporting event 1H: Timeslot ISCP below a certain threshold (TDD)

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

- 1> if equation 1 is fulfilled for a time period indicated by "Time to trigger" and if that P-CCPCH is not included in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 2> include that P-CCPCH in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT;
 - 2> send a measurement report with the IEs set as below:
 - 3> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and in "cell measurement event results" the "Cell parameters ID" of the P-CCPCH that triggered the report;
 - 3> include in "Cell measured results" the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT.

1> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:

3> increment the stored counter "sent reports" for that primary CCPCH in "cells triggered" in variable TRIGGERED_1H_EVENT;

3> send a measurement report with IEs set as below:

- 4> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and "cell measurement event results" to the "Cell parameters ID" of the P-CCPCH that triggered the report;
- 4> set in "measured results " the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT and "additional measured results" according to subclause 8.4.2.
- 1> if Equation 2 below is fulfilled for a primary CCPCH:
 - 2> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 3> remove the entry of that primary CCPCH from "cells triggered" in the variable TRIGGERED_1H_EVENT.

The UE shall use the equations below for evaluation of reporting event 1h:

Equation 1

 $10 \cdot LogM_i + H_{1h} + O_i < T_{1h},$

Equation 2

 $10 \cdot LogM_i - H_{1h} + O_i > T_{1h},$

The variables in the formula are defined as follows:

 M_i is the Timeslot ISCP of the currently evaluated cell *i* expressed in mW

 O_i is the cell individual offset of the currently evaluated cell i

 T_{1h} is the Threshold for event 1h

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

Before any evaluation is done, the Timeslot ISCP expressed in mW is filtered according to subclause 8.6.7.2.





	CR-Form-v5.1			
ж	25.331 CR 1422 # rev - # Current version: 4.4.0			
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	affects: # (U)SIM ME/UE X Radio Access Network Core Network			
Title: ដ	Variable for shared channel configurations			
Source: ೫	TSG-RAN WG2			
Work item code: ℜ	TEI Date: # 2 May 2002			
Category: Ж	ARelease: %REL-4Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99Detailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5			
Reason for change: # In the clause 8.2.7.3 (Reception of a PHYSICAL SHARED CHANNEL ALLOCATION message by the UE) as well as in the clause 8.2.8.3 (PUSC CAPACITY REQUEST message contents to set) PDSCH and PUSCH are configured, these configuration are stored and reused. Anyhow, there is no defined where to store these configurations (and in what format) in the UE that is misleading if they are referenced later. 14.1.3.2 Within event 1h, the phrase with "sent reports" does not apply The variable TRIGGERED_1H_EVENT does not contain the IE "sent reports". It is prop to remove this phrase.				
Summary of chang	 Re: # New UE variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION is introduced in the clause 13.4.X with all the configuration information needed. Further the descriptions of procedures referring to the stored configurations are corrected accordingly in the clauses 8.2.7.3 and 8.2.8.3. 14.1.3.2 It is proposed to remove the phrase concerning "sent reports". 			
	Isolated Impact Analysis:			
	Correction to a function where the specification was:			
	Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.			
	Affected function: Storing the PDSCH and PUSCH configurations in UE and referencing them within the specification. Affect only the UE side.			

I								
		he evaluation of event 1n would not be affected by this change, because since						
		the IE sent reports doesn't exis	ie ie "sent reports" doesn't exist in variable TRIGGERED_1H_EVENT, it wasn't					
		possible to use it in current imple	mei	itations.				
Consequences if	ж	Misleading specification - refere	ncir	ng of stored configurations.				
not approved:								
		Misleading specification - refere	Misleading specification - referencing a non specified IE in a variable could lead					
		to an unpredictable UE behavio	to an unpredictable UE behaviour.					
Clauses affected:	ж	8.2.7.3, 8.2.8.3, 13.4.x (new), 14	4.1.:	3.2				
Other specs	ж	Other core specifications	ж	25.331 v3.10.0, CR 1421				
				25.331 v5.0.0, CR 1423				
affected:		Test specifications						
		O&M Specifications						
Other comments:	ж							

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

- 1> check the DSCH-RNTI to see if the UE is addressed by the message;
- 1> if the UE is addressed by the message, or if the message is received on the downlink DCCH:

2> perform the following actions.

1> otherwise:

2> ignore the message.

- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
- 1> if the IE "ISCP Timeslot list" is included:

2> store the timeslot numbers given there for future Timeslot ISCP measurements and reports in the variable <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u>.

- 1> if the IE "PDSCH capacity allocation info" is included:
 - 2> configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:
 - 3> if the CHOICE "Configuration" has the value "Old configuration":
 - 4> if the UE has stored a PDSCH configuration <u>in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u> with the identity given by the IE "PDSCH Identity":

5> configure the physical resources according to that configuration.

- 4> otherwise:
 - 5> ignore the IE "PDSCH capacity allocation info".
- 3> if the CHOICE "Configuration" has the value "New configuration":
 - 4> configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":
 - 5> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u><u>specified in the previous "PHYSICAL</u> <u>SHARED CHANNEL ALLOCATION" message</u> for this CCTrCH.
 - 4> if the IE "PDSCH Identity" is included:

5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.

- 2> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
- 2> if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":

3> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.

- 2> if the IE "PUSCH capacity allocation info" is included:
- 2> stop the timer T310, if running;

2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":

3> start the timer T311.

- 2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":
 - 3> stop the timer T311, if running;
 - 3> configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:
 - 4> if the CHOICE "Configuration" has the value "Old configuration":
 - 5> if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity" into the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION:
 - 5> configure the physical resources according to that configuration.
 - 5> otherwise:
 - 5> ignore the IE "PUSCH capacity allocation info".
 - 4> if the CHOICE "Configuration" has the value "New configuration", the UE shall:
 - 5> configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":
 - 6> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION specified in the previous</u> "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
 - 5> if the IE "PUSCH Identity" is included:
 - 5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.
 - 3> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
 - 3> if the IE "Traffic volume report request " is included:
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".
 - 3> if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- 1> determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;
- 1> configure the MAC-c/sh in the UE with this TFCS restriction if necessary;
- 1> transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.
- NOTE: If the UE has just entered a new cell and System Information Block Type 6has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

- 1> clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;
- 1> and the procedure ends.

[...]

8.2.8.3 PUSCH CAPACITY REQUEST message contents to set

With one PUSCH CAPACITY REQUEST message, capacity for one or more USCH can be requested. It shall include these information elements:

- 1> C-RNTI to be used as UE identity if the message is sent on RACH;
- 1> Traffic volume measured results for each radio bearer satisfying the reporting criteria as specified in the MEASUREMENT CONTROL procedure (if no radio bearer satisfies the reporting criteria, traffic volume measured results shall not be included). These results shall include:
 - 2> Radio Bearer ID of the Radio Bearer being reported;
 - 2> RLC buffer payload for these radio bearers, as specified by the MEASUREMENT CONTROL procedure.

The UE shall:

- 1> if the initiation of the procedure is triggered by the IE "Traffic volume report request" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> report the traffic volume measurement result for the radio bearer mapped on USCH transport channel specified in the received message. These results shall include:
 - 3> Radio Bearer ID of the Radio Bearer being reported;
 - 3> RLC buffer payload for this radio bearer.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PDSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message and the IE "PUSCH capacity allocation info" is present in this message:
 - 2> set the CHOICE "Allocation confirmation" to "PDSCH Confirmation" with the value given in the IE "PDSCH Identity" stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION in the received message.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PUSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> set the CHOICE "Allocation confirmation" to "PUSCH Confirmation" with the value given in the IE "PUSCH Identity" stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION in the received message.
- 1> if the variable PROTOCOL_ERROR_REJECT is set to TRUE:
 - 2> include the IE "RRC transaction identifier" in the response message transmitted below; and
 - 2> set it to the value of "RRC transaction identifier" in the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Rejected transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry;
 - 2> set the IE "protocol error indicator" to TRUE;
 - 2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.
- 1> if the value of the variable PROTOCOL_ERROR_ REJECT is FALSE:
 - 2> set the IE "Protocol error indicator" to FALSE.

As an option, the message may include IE "Timeslot ISCP" and IE "Primary CCPCH RSCP".

The timeslots for which "Timeslot ISCP" may be reported shall have been configured with a previous PHYSICAL SHARED CHANNEL ALLOCATION message and stored in the variable PHYSICAL SHARED_CHANNEL_CONFIGURATION.

"Primary CCPCH RSCP" is reported when requested with a previous PHYSICAL SHARED CHANNEL ALLOCATION message.

13.4.X PHYSICAL SHARED CHANNEL CONFIGURATION

This variable is used only for TDD to store information about the physical shared channel configuration in the UE. Cleared when entering and leaving UTRA RRC connected mode.

Information Element/Group	Need	<u>Multi</u>	Type and	Semantics description
name			reference	
PUSCH configuration	<u>OP</u>			
>PUSCH info	MP		PUSCH info	
			10.3.6.63	
>PUSCH Identity	<u>OP</u>		Integer(1	
			hiPUSCHide	
			<u>ntities)</u>	
>PUSCH power control info	<u>OP</u>		PUSCH	
			power	
			control info	
			<u>10.3.6.65</u>	
PDSCH configuration	OP			
>PDSCH Info	MP		PDSCH Info	
			<u>10.3.6.44</u>	
>PDSCH Identity	<u>OP</u>		Integer(1hi	
			PDSCHident	
			<u>ities)</u>	
>PDSCH power control info	<u>OP</u>		PDSCH	
			power	
			control info	
			<u>10.3.6.45</u>	
ISCP Timeslot list	<u>OP</u>	<u>1 to</u>		
		<u>maxTS</u>		
>Timeslot number	MP		<u>Timeslot</u>	Timeslot numbers, for which
			number	the UE shall report the timeslot
			<u>10.3.6.84</u>	ISCP in PUSCH CAPACITY
				REQUEST message

14.1.3.2 Reporting event 1H: Timeslot ISCP below a certain threshold (TDD)

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

- 1> if equation 1 is fulfilled for a time period indicated by "Time to trigger" and if that P-CCPCH is not included in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 2> include that P-CCPCH in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT;
 - 2> send a measurement report with the IEs set as below:
 - 3> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and in "cell measurement event results" the "Cell parameters ID" of the P-CCPCH that triggered the report;

3> include in "Cell measured results" the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT.

1> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:

3> increment the stored counter "sent reports" for that primary CCPCH in "cells triggered" in variable TRIGGERED_1H_EVENT;

- 3> send a measurement report with IEs set as below:
 - 4> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and "cell measurement event results" to the "Cell parameters ID" of the P-CCPCH that triggered the report;
 - 4> set in "measured results" the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT and "additional measured results" according to subclause 8.4.2.
- 1> if Equation 2 below is fulfilled for a primary CCPCH:
 - 2> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 3> remove the entry of that primary CCPCH from "cells triggered" in the variable TRIGGERED_1H_EVENT.

The UE shall use the equations below for evaluation of reporting event 1h:

Equation 1

 $10 \cdot LogM_i + H_{1h} + O_i < T_{1h},$

Equation 2

 $10 \cdot LogM_i - H_{1h} + O_i > T_{1h}$

The variables in the formula are defined as follows:

 M_i is the Timeslot ISCP of the currently evaluated cell *i* expressed in mW

 O_i is the cell individual offset of the currently evaluated cell i

 T_{1h} is the Threshold for event 1h

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

Before any evaluation is done, the Timeslot ISCP expressed in mW is filtered according to subclause 8.6.7.2.





	CR-Form-v5.1					
¥	25.331 CR 1423 # rev - # Current version: 5.0.0 #					
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	affects: # (U)SIM ME/UE X Radio Access Network Core Network					
<i>Title:</i> ដ	Variable for shared channel configurations					
Source: ೫	TSG-RAN WG2					
Work item code: ೫	TEI Date: 육 2 May 2002					
Category: ⊮	ARelease: %REL-5Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5					
Reason for change	In the clause 8.2.7.3 (Reception of a PHYSICAL SHARED CHANNEL ALLOCATION message by the UE) as well as in the clause 8.2.8.3 (PUSCH CAPACITY REQUEST message contents to set) PDSCH and PUSCH are					
	 configured, these configuration are stored and reused. Anyhow, there is not defined where to store these configurations (and in what format) in the UE and that is misleading if they are referenced later. 14.1.3.2 Within event 1h, the phrase with "sent reports" does not apply The variable TRIGGERED_1H_EVENT does not contain the IE "sent reports". It is proposed to remove this phrase. 					
Summary of chang	ge: % New UE variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION is introduced in the clause 13.4.X with all the configuration information needed. Further the descriptions of procedures referring to the stored configurations are corrected accordingly in the clauses 8.2.7.3 and 8.2.8.3.					
	14.1.3.2 It is proposed to remove the phrase concerning "sent reports".					
	Isolated Impact Analysis:					
	Correction to a function where the specification was:					
	ambiguous or not sufficiently explicit.					
	Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.					
	Affected function: Storing the PDSCH and PUSCH configurations in UE and referencing them within the specification. Affect only the UE side.					

I.											
		The evaluation of event 1h would not be affected by this change, because since the IE "sent reports" doesn't exist in variable TRIGGERED 1H EVENT it wasn't									
		possible to use it in current implementations.									
Consequences if	ж	Misleading specification - refere	encir	ng of stored configurations.							
not approved:											
		Misleading specification - referencing a non specified IE in a variable could lead									
		to an unpredictable UE behaviour.									
		•									
Clauses affected:	ж	8.2.7.3, 8.2.8.3, 13.4.x (new), 14	4.1.:	3.2							
Other specs	ж	Other core specifications	ж	25.331 v3.10.0, CR 1421							
				25.331 v4.4.0, CR 1422							
affected		Test specifications									
		O&M Specifications									
	l										
0.1	0.0										
Other comments:	ж										

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> 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.

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

- 1> check the DSCH-RNTI to see if the UE is addressed by the message;
- 1> if the UE is addressed by the message, or if the message is received on the downlink DCCH:

2> perform the following actions.

1> otherwise:

2> ignore the message.

- 1> act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
- 1> if the IE "ISCP Timeslot list" is included:

2> store the timeslot numbers given there for future Timeslot ISCP measurements and reports in the variable <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u>.

- 1> if the IE "PDSCH capacity allocation info" is included:
 - 2> configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:
 - 3> if the CHOICE "Configuration" has the value "Old configuration":
 - 4> if the UE has stored a PDSCH configuration <u>in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u> with the identity given by the IE "PDSCH Identity":

5> configure the physical resources according to that configuration.

- 4> otherwise:
 - 5> ignore the IE "PDSCH capacity allocation info".
- 3> if the CHOICE "Configuration" has the value "New configuration":
 - 4> configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":
 - 5> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL_SHARED_CHANNEL_CONFIGURATION</u><u>specified in the previous "PHYSICAL</u> <u>SHARED CHANNEL ALLOCATION" message</u> for this CCTrCH.
 - 4> if the IE "PDSCH Identity" is included:

5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.

- 2> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
- 2> if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":

3> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.

- 2> if the IE "PUSCH capacity allocation info" is included:
- 2> stop the timer T310, if running;

2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":

3> start the timer T311.

- 2> if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":
 - 3> stop the timer T311, if running;
 - 3> configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:
 - 4> if the CHOICE "Configuration" has the value "Old configuration":
 - 5> if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity" into the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION:
 - 5> configure the physical resources according to that configuration.
 - 5> otherwise:
 - 5> ignore the IE "PUSCH capacity allocation info".
 - 4> if the CHOICE "Configuration" has the value "New configuration", the UE shall:
 - 5> configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":
 - 6> reuse the configuration <u>stored in the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION specified in the previous</u> "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
 - 5> if the IE "PUSCH Identity" is included:
 - 5> store the new configuration <u>into the variable</u> <u>PHYSICAL SHARED CHANNEL CONFIGURATION</u> using that identity.
 - 3> start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
 - 3> if the IE "Traffic volume report request " is included:
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".
 - 3> if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":
 - 4> initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- 1> determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;
- 1> configure the MAC-c/sh in the UE with this TFCS restriction if necessary;
- 1> transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.
- NOTE: If the UE has just entered a new cell and System Information Block Type 6has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

- 1> clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;
- 1> and the procedure ends.

[...]

8.2.8.3 PUSCH CAPACITY REQUEST message contents to set

With one PUSCH CAPACITY REQUEST message, capacity for one or more USCH can be requested. It shall include these information elements:

- 1> C-RNTI to be used as UE identity if the message is sent on RACH;
- 1> Traffic volume measured results for each radio bearer satisfying the reporting criteria as specified in the MEASUREMENT CONTROL procedure (if no radio bearer satisfies the reporting criteria, traffic volume measured results shall not be included). These results shall include:
 - 2> Radio Bearer ID of the Radio Bearer being reported;
 - 2> RLC buffer payload for these radio bearers, as specified by the MEASUREMENT CONTROL procedure.

The UE shall:

- 1> if the initiation of the procedure is triggered by the IE "Traffic volume report request" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> report the traffic volume measurement result for the radio bearer mapped on USCH transport channel specified in the received message. These results shall include:
 - 3> Radio Bearer ID of the Radio Bearer being reported;
 - 3> RLC buffer payload for this radio bearer.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PDSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message and the IE "PUSCH capacity allocation info" is present in this message:
 - 2> set the CHOICE "Allocation confirmation" to "PDSCH Confirmation" with the value given in the IE "PDSCH Identity" stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION in the received message.
- 1> if the initiation of the procedure is triggered by the IE "Confirm request" set to "Confirm PUSCH" in a previously received PHYSICAL SHARED CHANNEL ALLOCATION message:
 - 2> set the CHOICE "Allocation confirmation" to "PUSCH Confirmation" with the value given in the IE "PUSCH Identity" stored in the variable PHYSICAL_SHARED_CHANNEL_CONFIGURATION in the received message.
- 1> if the variable PROTOCOL_ERROR_REJECT is set to TRUE:
 - 2> include the IE "RRC transaction identifier" in the response message transmitted below; and
 - 2> set it to the value of "RRC transaction identifier" in the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Rejected transactions" in the variable TRANSACTIONS; and
 - 2> clear that entry;
 - 2> set the IE "protocol error indicator" to TRUE;
 - 2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.
- 1> if the value of the variable PROTOCOL_ERROR_ REJECT is FALSE:
 - 2> set the IE "Protocol error indicator" to FALSE.

As an option, the message may include IE "Timeslot ISCP" and IE "Primary CCPCH RSCP".

The timeslots for which "Timeslot ISCP" may be reported shall have been configured with a previous PHYSICAL SHARED CHANNEL ALLOCATION message and stored in the variable PHYSICAL SHARED_CHANNEL_CONFIGURATION.

"Primary CCPCH RSCP" is reported when requested with a previous PHYSICAL SHARED CHANNEL ALLOCATION message.

13.4.X PHYSICAL SHARED CHANNEL CONFIGURATION

This variable is used only for TDD to store information about the physical shared channel configuration in the UE. Cleared when entering and leaving UTRA RRC connected mode.

Information Element/Group	Need	<u>Multi</u>	Type and	Semantics description
name			reference	
PUSCH configuration	<u>OP</u>			
>PUSCH info	MP		PUSCH info	
			10.3.6.63	
>PUSCH Identity	OP		Integer(1	
			hiPUSCHide	
			ntities)	
>PUSCH power control info	<u>OP</u>		PUSCH	
			power	
			control info	
			10.3.6.65	
PDSCH configuration	OP			
>PDSCH Info	MP		PDSCH Info	
			<u>10.3.6.44</u>	
>PDSCH Identity	<u>OP</u>		Integer(1hi	
			PDSCHident	
			<u>ities)</u>	
>PDSCH power control info	<u>OP</u>		PDSCH	
			power	
			control info	
			<u>10.3.6.45</u>	
ISCP Timeslot list	<u>OP</u>	<u>1 to</u>		
		<u>maxTS</u>		
>Timeslot number	MP		<u>Timeslot</u>	Timeslot numbers, for which
			number	the UE shall report the timeslot
			<u>10.3.6.84</u>	ISCP in PUSCH CAPACITY
				REQUEST message

14.1.3.2 Reporting event 1H: Timeslot ISCP below a certain threshold (TDD)

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

- 1> if equation 1 is fulfilled for a time period indicated by "Time to trigger" and if that P-CCPCH is not included in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 2> include that P-CCPCH in the IE "cells triggered" in the variable TRIGGERED_1H_EVENT;
 - 2> send a measurement report with the IEs set as below:
 - 3> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and in "cell measurement event results" the "Cell parameters ID" of the P-CCPCH that triggered the report;

3> include in "Cell measured results" the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT.

1> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:

3> increment the stored counter "sent reports" for that primary CCPCH in "cells triggered" in variable TRIGGERED_1H_EVENT;

- 3> send a measurement report with IEs set as below:
 - 4> set in "intra-frequency measurement event results": "Intrafrequency event identity" to "1h" and "cell measurement event results" to the "Cell parameters ID" of the P-CCPCH that triggered the report;
 - 4> set in "measured results" the "Timeslot ISCP" of those cells that are included in the variable TRIGGERED_1H_EVENT and "additional measured results" according to subclause 8.4.2.
- 1> if Equation 2 below is fulfilled for a primary CCPCH:
 - 2> if a primary CCPCH is included in the "cells triggered" in the variable TRIGGERED_1H_EVENT:
 - 3> remove the entry of that primary CCPCH from "cells triggered" in the variable TRIGGERED_1H_EVENT.

The UE shall use the equations below for evaluation of reporting event 1h:

Equation 1

 $10 \cdot LogM_i + H_{1h} + O_i < T_{1h},$

Equation 2

 $10 \cdot LogM_i - H_{1h} + O_i > T_{1h}$

The variables in the formula are defined as follows:

 M_i is the Timeslot ISCP of the currently evaluated cell *i* expressed in mW

 O_i is the cell individual offset of the currently evaluated cell i

 T_{1h} is the Threshold for event 1h

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

Before any evaluation is done, the Timeslot ISCP expressed in mW is filtered according to subclause 8.6.7.2.





R2-021425

CR-Form-v5														
CHANGE REQUEST														
ж	25	.331	CR	<mark>1424</mark>	ж	rev	r1	ж	Current	t vers	sion:	<mark>3.10</mark>	ж <mark>0.</mark>	
For <u>HELP</u> on	using	this for	m, see	bottom	of this pa	age or	look a	at th	e pop-up	o text	over	the X	symbols	S.
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network														
Title:	f Inte	egrity p	rotectio	on on RI	B0									
Source:	€ <mark>TS</mark>	G-RAN	IWG2											
Work item code: 8	€ TE	I							Dat	<i>te:</i> Ж	13	May 20	02	
Category: 3	f F Use Deta be fo	one of a F (corr A (corr B (add C (fund D (edit ailed exp bound in	the follo rection) respond lition of ctional n torial mo blanation 3GPP <u>1</u>	wing cate Is to a co feature), modification ns of the TR 21.900	egories: rrection in ion of featu n) above cat <u>)</u> .	an ea ure) egorie:	<i>rlier re</i> . s can	lease	Releas Use <u>o</u> 2 e) R9 R9 R9 R9 R9 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1	5 e: % one of 96 97 98 99 EL-4 EL-5	R99 the fo (GSN (Rele (Rele (Rele (Rele (Rele	9 Ilowing 1 Phase ase 19 ase 19 ase 19 ase 4) ase 5)	releases 2) 96) 97) 98) 99)	÷
Reason for chang	уе: Ж	1. The it is a proce oppo 2. It is same 3. It is RB 0 4. [Fr] 8.6.3 trans ident ORD FALS ORD beha ORD acce trans 1. It is UEs 2. It is	e UE b stated t edures site is s not c e mess s not o c mess s not c mess s not c mess s not c mess s not c mes	behaviou hat the e describe stated. lear if U age mul bvious t oc R2-0 s clause s based is descr <u>RECOI</u> vever, th <u>RECOI</u> f the UE <u>RECOI</u> rejected identifie	TRAN will tiple time hat UTRA 21083] describe on the m ibed that NFIGURA SEGURA IN Order NFIGURA d, it is pro- r" before allow the messag clarify that ame mess	eceivir ck sho tion 8 Il alwa s. AN will essage for so ATION sages ATION to gua ATION to atio ATION to atio ATION ATION ATION ATION ATI	behave be	RB e exe ding e the e the set the set the ccior ard n perfo houl ble tin	0 messa ecuted b integrity e same R same R of the L d the IE ved mess ed in 8.6 nge the d . This ca anged be UE shall n is perfor message orming th d always mes.	ages before y), bu RRC RC SI JE for Sages 3.11 conte an ca ariable efore Lact of prmeets s that be into s use	is not e exec t in se SN w N spa <u>r acce</u> <u>c tran</u> <u>s the r</u> <u>whet</u> <u>t are s</u> egrity the s	clear. cuted a ection a hen se ce for <u>epting o</u> <u>sactior</u> <u>variabl</u> her it is <u>f the va</u> <u>an erro</u> <u>ransac</u> the IE	In section ny of the the anding the each UE or rejection section is tion is 'RRC sect to o procedu RC SN	on 9 e ine ing or other ure.
		3. It i each <u>4. [Fi 8.6.3</u> inclui is pe	s propo UE on rom Td .11Ado ded in rforme	DL RB OC R2-0 DL hat the a receive d.	clarify tha 0. <u>21083]</u> e UE sha ed messa	II act u	RAN sl upon t efore a	houl he II	d use a s <u>E "RRC -</u> other act	sepa <u>trans</u> tion c	rate F action	RC SI	N space <u>fier" if</u> <u>iis mess</u>	for sage

		This change clarifies the integrity protection on RB 0 procedure. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. [From Tdoc R2-021083] Correction to a function where the specification was ambiguous or not sufficient explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. Impacted functionality: Evaluation of IE "RRC transaction identifier" Note: The corrections have no foreseen impact on the T1 test specifications. Correction: If the IE "RRC transaction identifier" is included in a received message the UE shall act upon this IE before any other action concerning this message is performed. The change has isolated impact to the UE, the UTRAN is not concerned by this	I ₩ SCT				
Concervances if	مە	<u>change.</u>					
consequences if not approved:	ж	 The integrity check is done before verifying if the message is addressed to other UEs, a message addressed to a different UE may by chance generate a good MAC. If this happened, the Downlink RRC HFN would go out of sync, leading to the loss of the RRC connection. The use of different RRC SN in repeated messages increases the possibility of having Downlink RRC HFNs out of sync between UE and UTRAN. UTRAN implementations not conforming to this statement will not be able to operate integrity protection in CELL_FACH state. Since integrity protection is mandatory, the CELL_FACH state would become unusable. [From Tdoc R2-021083] The wrong handling of UE variables will cause erroneous UE behavior.The variable which is necessary to decide whether the transaction is accepted or not could be changed before this decision is performed. This leads to erroneous UE behaviour. 					
Clauses affected:	ж	8, 8, 1, 4, 2, 8, 3, 1, 5, 8, 5, 10, 1, 9, 1					
Ciauses aneolea.	00	0, 0, 1, 1, 2, 0, 0, 1, 0, 1, 0, 1					
Other specs	ж	Other core specifications # 25.331 v4.4.0, CR 1425r1 25.331 v5.0.0, CR 1426r1					

Other comments: #

affected:

How to create CRs using this form:

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

Test specifications O&M Specifications

- 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 <u>ftp://ftp.3gpp.org/specs/</u> 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 RRC procedures

The UE shall be able to process several simultaneous RRC procedures. After the reception of a message which invoked a procedure, the UE shall be prepared to receive and act on another message which may invoke a second procedure. Whether this second invocation of a procedure (transaction) is accepted or rejected by the UE is specified in the subclauses of this clause, and in particular in subclause 8.6.3.11 (RRC transaction identifier).

On receiving a message the UE shall-should first check that the message is addressed to the UE (e.g. by checking the IE "Initial UE identity" or the IE "U-RNTI" for messages on CCCH) and discard the messages addressed to other UEs, then the UE shall apply integrity check as appropriate, and then proceed with error handling as specified in clause 9, then act upon the IE "RRC transaction identifier", before continuing on with the procedure as specified in the relevant subclause. The RRC entity in the UE shall consider PDUs to have been transmitted when they are submitted to the lower layers. If the RRC entity in the UE submits a message for transmission using AM RLC, it shall consider the message successfully transmitted when UTRAN reception of all relevant PDUs is acknowledged by RLC. In the UE, timers are started when the PDUs are sent on the radio interface in the case of the transmission using the CCCH.

[...]

8.1.4.2 Initiation

When the UE is in state CELL_DCH or CELL_FACH, the UTRAN may at anytime initiate an RRC connection release by transmitting an RRC CONNECTION RELEASE message using UM RLC.

When UTRAN transmits an RRC CONNECTION RELEASE message the downlink DCCH should be used, if available. If the downlink DCCH is not available in UTRAN and the UE is in CELL_FACH state, the downlink CCCH may be used.

UTRAN may transmit several RRC CONNECTION RELEASE messages to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages shall should be the same. This shall also apply to the RRC CONNECTION RELEASE COMPLETE message. The number of repeated messages and the interval between the messages is a network option.

[...]

8.3.1.5 Reception of an CELL UPDATE/URA UPDATE message by the UTRAN

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

- 1> in case the procedure was triggered by reception of a CELL UPDATE:
 - 2> if SRNS relocation was performed:

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH.

- 2> otherwise:
 - 3> update the START value for each CN domain as maintained in UTRAN (refer to subclause 8.5.9) with "START" in the IE "START list" for the CN domain as indicated by "CN domain identity" in the IE "START list";
 - 3> if this procedure was triggered while the UE was not in CELL_DCH state, then for each CN domain as indicated by "CN domain identity" in the IE "START list":

4> set the 20 MSB of the MAC-d HFN with the corresponding START value in the IE "START list";

4> set the remaining LSB of the MAC-d HFN to zero.

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH or optionally on the CCCH but only if ciphering is not required; and

- 3> optionally include the IE "RLC re-establish indicator (RB5 and upwards)" to request a RLC reestablishment in the UE, in which case the corresponding RLC entities should also be re-established in UTRAN; or
- 1> in case the procedure was triggered by reception of a URA UPDATE:
 - 2> if SRNS relocation was performed:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink DCCH.
 - 2> otherwise:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink CCCH or DCCH.
 - 2> include the IE "URA identity" in the URA UPDATE CONFIRM message in a cell where multiple URA identifiers are broadcast; or
- 1> initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:
 - 2> if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:
 - 3> initiate an RRC connection release procedure (subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

<u>UTRAN may transmit several CELL UPDATE CONFIRM/URA UPDATE CONFIRM messages to increase the</u> probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

8.5.10.1 Integrity protection in downlink

If the UE receives an RRC message on signalling radio bearer with RB identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is present the UE shall:

- 1> check the value of the IE "RRC message sequence number" included in the IE "Integrity check info";
 - 2> if the "Downlink RRC Message sequence number" is not present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> initialise the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received message.
 - 2> if the "Downlink RRC Message sequence number" is present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> if the RRC message sequence number is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> increment "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with one.
 - 3> if the RRC message sequence number is equal to the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> discard the message.
- 1> calculate an expected message authentication code in accordance with subclause 8.5.10.3;
- 1> compare the expected message authentication code with the value of the received IE "message authentication code" contained in the IE "Integrity check info";
 - 2> if the expected message authentication code and the received message authentication code are the same, the integrity check is successful:

- 3> update the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received RRC message.
- 2> if the calculated expected message authentication code and the received message authentication code differ:
 - 3> if the IE "RRC message sequence number" included in the IE "Integrity check info" is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO (in this case the "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO was incremented by one, as stated above):
 - 4> decrement "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO by one.
 - 3> discard the message.

If the UE receives an RRC message on signalling radio bearer with identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is not present the UE shall:

1> discard the message.

UTRAN may transmit several copies of the same message in downlink to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

9.1 General

This subclause specifies procedures for the handling of unknown, unforeseen, and erroneous protocol data by the receiving entity. These procedures are called "error handling procedures", but in addition to provide recovery mechanisms for error situations they define a compatibility mechanism for future extensions of the protocol.

The error handling procedures specified in this subclause shall apply to all RRC messages. When there is a specific handling for messages received on different logical channels this is specified.

For system information received on the BCCH, the error handling procedures are applied on the BCCH message SYSTEM INFORMATION, the re-assembled system information segments as well as the system information blocks (including the master information block and the scheduling blocks), with specific error handling as specified below.

When the UE receives an RRC message, it shall set the variable PROTOCOL_ERROR_REJECT to FALSE and then perform the checks in the order as defined below.

The procedures specified in clause 8 are applied only for the messages passing the checks as defined below, except when procedure specific handling is used to recover from the error.

The error cases specified in the following include the handling upon reception of spare values. This behaviour also applies in case the actual value of the IE results from mapping the originally sent IE value. Moreover, in certain error cases, as specified in the following, default values apply. In this case, the default values specified within the ASN.1, the tabular and the procedure specifications apply.

[...]

R2-021426

1									
	- (This change clarifies the integr t would not affect implementat affect implementations support	ity pr ions ing tl	otection on RB 0 procedure. behaving like indicated in the CR, it would ne corrected functionality otherwise.					
	<u>[</u> F	rom Tdoc R2-021083]							
	C ex	orrection to a function where the splicit.	<u>ne sp</u>	ecification was ambiguous or not sufficiently					
	<u>V</u> in	ould not affect implementatior	ns be corre	having like indicated in the CR, would affect acted functionality otherwise.					
	In	Impacted functionality:							
	<u>E</u>	Evaluation of IE "RRC transaction identifier"							
	<u>N</u>	Note: The corrections have no foreseen impact on the T1 test specifications.							
	C	Correction:							
	lf st pe	If the IE "RRC transaction identifier" is included in a received message the UE shall act upon this IE before any other action concerning this message is performed.							
	T cł	ne change has isolated impact nange.	<u>to th</u>	e UE, the UTRAN is not concerned by this					
Consequences if	ж ,	If the integrity check is done	hefo	re verifying if the message is addressed to					
not approved:		 other UEs, a message addressed to a different UE may by chance generate a good MAC. If this happened, the Downlink RRC HFN would go out of sync, leading to the loss of the RRC connection. 2. The use of different RRC SN in repeated messages increases the possibility of having Downlink RRC HFNs out of sync between UE and UTRAN. 3. UTRAN implementations not conforming to this statement will not be able to operate integrity protection in CELL_FACH state. Since integrity protection is mandatory, the CELL_FACH state would become unusable. 4. [From Tdoc R2-021083] The wrong handling of UE variables will cause erroneous UE behavior.The variable which is necessary to decide whether the transaction is accepted or not could be changed before this decision is performed. This leads to erroneous UE before this decision is performed. This leads to erroneous UE before this decision is performed. This leads to erroneous UE before this decision is performed. 							
	ł	behaviour.							
Clauses affected:	ж <mark>у</mark>	3 8 1 4 2 8 3 1 5 8 5 10 1 9	1						
		_							
Other specs	ж	Other core specifications	ж	25.331 v3.10.0, CR 1424r1 25.331 v5.0.0, CR 1426r1					

Other comments: #

affected:

How to create CRs using this form:

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

Test specifications O&M Specifications

- 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 <u>ftp://ftp.3gpp.org/specs/</u> 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 RRC procedures

The UE shall be able to process several simultaneous RRC procedures. After the reception of a message which invoked a procedure, the UE shall be prepared to receive and act on another message which may invoke a second procedure. Whether this second invocation of a procedure (transaction) is accepted or rejected by the UE is specified in the subclauses of this clause, and in particular in subclause 8.6.3.11 (RRC transaction identifier).

On receiving a message the UE shall first <u>check that the message is addressed to the UE (e.g. by checking the IE "Initial UE identity" or the IE "U-RNTI" for messages on CCCH) and discard the messages addressed to other UEs, then apply integrity check as appropriate, and then proceed with error handling as specified in clause 9, then act upon the IE "RRC transaction identifier", before continuing on with the procedure as specified in the relevant subclause. The RRC entity in the UE shall consider PDUs to have been transmitted when they are submitted to the lower layers. If the RRC entity in the UE submits a message for transmission using AM RLC, it shall consider the message successfully transmitted when the PDUs are sent on the radio interface in the case of the transmission using the CCCH.</u>

[...]

8.1.4.2 Initiation

When the UE is in state CELL_DCH or CELL_FACH, the UTRAN may at anytime initiate an RRC connection release by transmitting an RRC CONNECTION RELEASE message using UM RLC.

When UTRAN transmits an RRC CONNECTION RELEASE message the downlink DCCH should be used, if available. If the downlink DCCH is not available in UTRAN and the UE is in CELL_FACH state, the downlink CCCH may be used.

UTRAN may transmit several RRC CONNECTION RELEASE messages to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages shall should be the same. This shall also apply to the RRC CONNECTION RELEASE COMPLETE message. The number of repeated messages and the interval between the messages is a network option.

[...]

8.3.1.5 Reception of an CELL UPDATE/URA UPDATE message by the UTRAN

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

- 1> in case the procedure was triggered by reception of a CELL UPDATE:
 - 2> if SRNS relocation was performed:

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH.

- 2> otherwise:
 - 3> update the START value for each CN domain as maintained in UTRAN (refer to subclause 8.5.9) with "START" in the IE "START list" for the CN domain as indicated by "CN domain identity" in the IE "START list";
 - 3> if this procedure was triggered while the UE was not in CELL_DCH state, then for each CN domain as indicated by "CN domain identity" in the IE "START list":

4> set the 20 MSB of the MAC-d HFN with the corresponding START value in the IE "START list";

4> set the remaining LSB of the MAC-d HFN to zero.

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH or optionally on the CCCH but only if ciphering is not required; and

- 3> optionally include the IE "RLC re-establish indicator (RB5 and upwards)" to request a RLC reestablishment in the UE, in which case the corresponding RLC entities should also be re-established in UTRAN; or
- 1> in case the procedure was triggered by reception of a URA UPDATE:
 - 2> if SRNS relocation was performed:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink DCCH.
 - 2> otherwise:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink CCCH or DCCH.
 - 2> include the IE "URA identity" in the URA UPDATE CONFIRM message in a cell where multiple URA identifiers are broadcast; or
- 1> initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:
 - 2> if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:
 - 3> initiate an RRC connection release procedure (subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

<u>UTRAN may transmit several CELL UPDATE CONFIRM/URA UPDATE CONFIRM messages to increase the</u> probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

8.5.10.1 Integrity protection in downlink

If the UE receives an RRC message on signalling radio bearer with RB identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is present the UE shall:

- 1> check the value of the IE "RRC message sequence number" included in the IE "Integrity check info";
 - 2> if the "Downlink RRC Message sequence number" is not present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> initialise the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received message.
 - 2> if the "Downlink RRC Message sequence number" is present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> if the RRC message sequence number is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> increment "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with one.
 - 3> if the RRC message sequence number is equal to the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> discard the message.
- 1> calculate an expected message authentication code in accordance with subclause 8.5.10.3;
- 1> compare the expected message authentication code with the value of the received IE "message authentication code" contained in the IE "Integrity check info";
 - 2> if the expected message authentication code and the received message authentication code are the same, the integrity check is successful:

- 3> update the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received RRC message.
- 2> if the calculated expected message authentication code and the received message authentication code differ:
 - 3> if the IE "RRC message sequence number" included in the IE "Integrity check info" is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO (in this case the "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO was incremented by one, as stated above):
 - 4> decrement "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO by one.
 - 3> discard the message.

If the UE receives an RRC message on signalling radio bearer with identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is not present the UE shall:

1> discard the message.

UTRAN may transmit several copies of the same message in downlink to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

9.1 General

This subclause specifies procedures for the handling of unknown, unforeseen, and erroneous protocol data by the receiving entity. These procedures are called "error handling procedures", but in addition to provide recovery mechanisms for error situations they define a compatibility mechanism for future extensions of the protocol.

The error handling procedures specified in this subclause shall apply to all RRC messages. When there is a specific handling for messages received on different logical channels this is specified.

For system information received on the BCCH, the error handling procedures are applied on the BCCH message SYSTEM INFORMATION, the re-assembled system information segments as well as the system information blocks (including the master information block and the scheduling blocks), with specific error handling as specified below.

When the UE receives an RRC message, it shall set the variable PROTOCOL_ERROR_REJECT to FALSE and then perform the checks in the order as defined below.

The procedures specified in clause 8 are applied only for the messages passing the checks as defined below, except when procedure specific handling is used to recover from the error.

The error cases specified in the following include the handling upon reception of spare values. This behaviour also applies in case the actual value of the IE results from mapping the originally sent IE value. Moreover, in certain error cases, as specified in the following, default values apply. In this case, the default values specified within the ASN.1, the tabular and the procedure specifications apply.

[...]

R2-021427

* 25.331 CR 1426 * rev r1 * Current version: 5.0.0 * * 25.331 CR 1426 * rev r1 * Current version: 5.0.0 * For HELP on using this form, see bottom of this page or look at the pop-up text over the * symbols. Proposed change affects: * (U)SIM ME/UE X Radio Access Network X Core Network Title: * Integrity protection on RB0 Source: * TSG-RAN WG2 Work item code: * TEI Date: * 13 May 2002 Category: * A Release: * REL-5 Use one of the following categories: Use one of the following releases: 7 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1997) C (functional modification of feature) R98 (Release 1999) D (editorial modification of feature) R98 (Release 1999) Release 1999) Release 1999) Release 1999) Release 1999) (ating and and at the enror check should be executed before executed any of the proceedures described in section 8 (including integrity), but in section 8 the opposite is stated. 1 is stated that the enror check should be executed before executed any of the proceedures d	y 3y		,										CR-Form-v5
** 25.331 CR 1426 ** rev r1 ** Current version: 5.0.0 ** For HELP on using this form, see bottom of this page or look at the pop-up text over the ** symbols. Proposed change affects: ** (U)SIM ME/UE X Radio Access Network X Core Network (Title: ** Integrity protection on RB0 Source: ** TSG-RAN WG2 Work item code: ** TEI Date: ** 13 May 2002 Category: ** A Release: ** REL-5 Use one of the following categories: Use one of the following releases: F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R86 (Release 1996) D (elase 1996) D (elase 1997) C (functional modification of feature) R99 (Release 1997) C (functional modification of relave) R99 (Release 1998) D D D D (elase 5) REL-4 (Release 1999) D D It is stated that the error check should be executed before executed any of the procedures described in section 8 (including integrity), but in section 8 the opposite is stated. 2. It is not obvious that UTRAN will always use the same RRC SN space for each UE or RB 0				(CHAN	IGE	REC	UE	ST	-			
For HELP on using this form, see bottom of this page or look at the pop-up text over the % symbols. Proposed change affects: % (U)SIM ME/UE Radio Access Network C Core Network Title: % Integrity protection on RB0 Source: % TSG-RAN WG2 Work item code: % TEI Date: % 13 May 2002 Category: % A # (corresponds to a correction in an earlier release) Release: % REL-5 # (addition of feature) R97 (Release 1996) # (addition of feature) R98 # (corresponds to a correction in an earlier release) R6(Release 1996) # (addition of feature) R99 (Release 1997) C (functional modification) R99 (Release 1998) D (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can REL-4 (Release 4) procedures described in section 8 (including integrity), but in section 8 it is stated that the error check should be executed before executed any of the opposite is stated. 2. It is not obvious that UTRAN will always use the same RRC SN when sending the same message multiple times. 3. It is not obvious that UTRAN will use the same RRC SN space for each UE or FALSE However, these messages the variable ORDERED RECONFIGURATION is checked in 8.6.3.11 whether it is TRUE or FALSE However, these messages may change the contents of the variable ORDERED RECONFIGURATION	ж		25.33	1 CR	1426		жrev	r1	ж	Current ve	rsion:	5.0.0	ж
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network Title: # Integrity protection on RB0 Source: # TSG-RAN WG2 Work item code: # TEI Date: # 13 May 2002 Category: # A Release: # REL-5 Use one of the following categories: Use one of the following releases: F (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification) R98 (Release 1997) C (functional modification) R99 (Release 1997) D (editorial modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) D (editorial modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) D testailed explanations of the above categories can be found in 3GPP TR 21,900. REL-4 (Release 4) Proposite is stated. 2. It is not obvious that UTRAN will always use the same RRC SN when sending the same message multiple times. 3. It is not obvious that UTRAN will use the same RRC SN space for each UE or RB 0. 4. [From Tdoc R2-021083] <th>For <u>HELP</u> o</th> <th>n us</th> <th>sing this f</th> <th>orm, see</th> <th>e bottom</th> <th>of this</th> <th>page or</th> <th>look</th> <th>at th</th> <th>e pop-up te</th> <th>xt ove</th> <th>r the X sy</th> <th>mbols.</th>	For <u>HELP</u> o	n us	sing this f	orm, see	e bottom	of this	page or	look	at th	e pop-up te	xt ove	r the X sy	mbols.
Title: ** Integrity protection on RB0 Source: ** TSG-RAN WG2 Work item code: ** TEI Date: ** 13 May 2002 Category: ** A Release: ** REL-5 Use one of the following categories: Use one of the following releases: 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B B (addition of feature) R97 (Release 1997) C (functional modification) R99 (Release 1996) Detailed explanations of the above categories can REL-4 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detailed explanations of the above categories can REL-4 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detaile is stated. 2 (Integrity) Dut in section 8 (including integrity), but in section 8	Proposed chan	ge a	ffects: a	₩ (U)	SIM	ME	UE X	Radi	io Ac	ccess Netwo	ork X	Core N	etwork
Source: # TSG-RAN WG2 Work item code: # TEl Date: # 13 May 2002 Category: # A Release: # REL-5 Use one of the following categories: Use one of the following releases: F Carrection) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature) R99 (Release 1997) C (functional modification of feature) R99 (Release 1997) C (functional modification of the above categories can be found in 3GPP TR 21.900. REL-4 (Release 1997) C (Release 1997) C (functional modification of the above categories can REL-4 Release 1997) C (Release 1997) C (Release 1997) C (functional modification of the above categories can REL-4 (Release 1997) C (Release 1997) C (Release 1997) C (functional modification of the above categories can REL-4 (Release 1997) C (Release 1997) C (Into in 3GPP TR 21.900. REL-4 (Release 1997) C (Release 1997) C (Into in 3GPP TR 21.900. Rel-4 (Release 1997) C (Into is stated in the error check should be executed before	Title:	ж	Integrity	protecti	on on RI	B0							
Work item code: * TEI Date: * 13 May 2002 Category: * A Release: * REL-5 Use one of the following categories: Use one of the following releases: 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification) R99 (Release 1999) Detailed explanations of the above categories can REL-4 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 1999) Detailed explanations of the above categories can REL-4 (Release 1999) Detailed explanations of the above categories can REL-5 (Release 5) Reason for change: * 1. The UE behaviour when receiving DL RB 0 messages is not clear. In section 9 it is stated that the error check should be executed before executed any of the procedures described in section 8 (including integrity), but in section 8 the opposite is stated. 2. It is not clear if UTRAN will always use the same RRC SN when sending the same message multiple times. 3. It is not obvious that UTRAN will use the same RRC SN space for each UE or RB 0. 4. 	Source:	ж	TSG-R/	<mark>N WG2</mark>									
Category: # A Release: # REL-5 Use one of the following categories: Use one of the following releases: 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification) R99 (Release 1997) C (functional modification) R99 (Release 1998) D (editorial modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) C (functional modification) R99 (Release 1997) Detailed explanations of the above categories can REL-4 (Release 4) be found in 3GPP TR 21.900. REL-5 (Release 5) Release 1999) Detailed explanations of the above categories can REL-4 (Release 4) be found in 3GPP TR 21.900. REL-5 (Release 1997) C (it is is stated that the error check should be executed before executed any of the procedures described in section 8 (including integrity), but in section 8 the opposite is stated. 2. It is not clear if UTRAN will always use the same RRC SN when sending the same message multiple times. 3. It is not obvious that UTRAN will always use the same RRC SN space for each UE or RB 0. 4. [From Tdoc R2-021083] 8.6.	Work item code	: X	TEI							Date:	¥ <mark>13</mark>	May 200	2
Reason for change: 1. The UE behaviour when receiving DL RB 0 messages is not clear. In section 1 it is stated that the error check should be executed before executed any of the procedures described in section 8 (including integrity), but in section 8 the opposite is stated. 2. It is not clear if UTRAN will always use the same RRC SN when sending the same message multiple times. 3. It is not obvious that UTRAN will use the same RRC SN space for each UE or RB 0. 4. [From Tdoc R2-021083] 8.6.3.11This clause describes the behaviour of the UE for accepting or rejecting transactions based on the message type and the IE "RRC transaction identifier". It is described that for some received messages the variable ORDERED_RECONFIGURATION is checked in 8.6.3.11 whether it is TRUE or FALSE. However, these messages may change the contents of the variable ORDERED_RECONFIGURATION is not changed before the transaction is accepted or rejected, it is proposed that the Variable ORDERED RECONFIGURATION is not changed before the transaction is accepted or rejected, it is proposed that the UE shall act upon the IE "RRC transaction identifier" before any other action is performed. Summary of change: % 1. It is proposed to allow the UE to discard messages that are addressed to othe UEs and unsolicited messages, before performing the integrity check procedure.	Category:	¥	A Use <u>one</u> c F (c A (c B (a C (fu D (e Detailed e be found i	of the follo prrection) orrespond dition of unctional ditorial m xplanatic n 3GPP	owing cate ds to a co i feature), modification ons of the TR 21.900	egories prrection ion of fe n) above <u>0</u> .	: n in an ea eature) categorie	erlier re	eleas	Release: Use <u>one</u> 2 e) R96 R97 R98 R99 REL-4 REL-5	ж RI of the f (GS (Rel (Rel (Rel (Rel (Rel (Rel	EL-5 ollowing rea M Phase 2, lease 1996, lease 1998, lease 1999, lease 4) lease 5)	leases:))
 It is proposed to clarify that UTRAN should always use the same RRC SN when sending the same message multiple times. It is proposed to clarify that UTRAN should use a separate RRC SN space for each UE on DL RB 0. [From Tdoc R2-021083] 	Reason for chai	nge: ange	: # 1. it is pro opp 2. I sar 3. I RB 4. <u>8.6</u> <u>4. CR bel OR bel OR <u>2.</u> I UE 2. I UE 2. I UE 2. I UE 2. I 4. <u>0</u> 8.6 0 7 8.6 0 7 8.6 0 7 8.6 0 8.6 1 8.6 0 8.6 0 8.6 0 8.6 1 8.6 1 8.6 0 8.6 18 1 8 1 8.6 1 8 1 8 1 8 1 8 8 1 8 8 1 8 8 1 8 1 8 </u>	The UE I stated to cedures posite is t is not content t is not content t is not content t is not content <u>From To Santifier".It</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u> <u>CDERED</u>	behaviou that the e describe stated. clear if U sage mul obvious t doc R2-0 is clause s based is describe RECOI of the UE RECOI of the UE rejected identifie osed to a nosel to	ur whe error cl ed in s TRAN tiple ti hat UT 21083 descr 01 the ibed th NFIGU Clarify ame m clarify 0. 21083	n receivi heck sho ection 8 will alwa mes. RAN wi ibes the message RATION der to gu RATION der to gu RATION propose pre any co he UE to sages, be that UTF nessage that UTF	ng DL buld bu (inclu ays us ll use <u>behay</u> <u>ge type</u> <u>ome re</u> <u>l is ch</u> <u>s may</u> <u>l to TI</u> <u>arante</u> <u>l is nc</u> <u>d that</u> <u>ther a</u> <u>o disca</u> <u>efore p</u> <u>CAN s</u> multip CAN s	RB Reex ding the ext the s receive chain RUE the action houl ble ti houl	0 message ecuted befo integrity), b e same RRC same RRC same RRC <u>r of the UE f</u> <u>d the IE "RF</u> ved message ed in 8.6.3.1 nge the con <u>int the varia</u> anged befor <u>UE shall ac</u> n is perform nessages tho prming the in d always us mes. Id use a sep	s is no re exe out in s C SN v SN sp C SN v SN sp C ran es the tents of cause ble tents of cause tents of cause te	at clear. In ecuted any section 8 the when sence ace for ea <u>septing or insaction</u> <u>variable</u> <u>ether it is Tof the varia</u> an errone <u>transaction</u> the IE "R addresse y check pr same RRC RRC SN s	section 9 of the ne ling the ch UE on rejecting <u>RUE or</u> able ous n is RC d to other ocedure. C SN space for
			Iso	lated In	pact Ch	nange	Analysi	s.					

	This It wo affec	change clarifies the integ uld not affect implementa t implementations suppor	rity pi tions ting t	otection on RB 0 procedure. behaving like indicated in the CR, it would he corrected functionality otherwise.
	[From	Tdoc R2-021083]		
	Correction Correction	ction to a function where the state of the s	the sp	pecification was ambiguous or not sufficiently
	Would impler	I not affect implementation mentations supporting the	ns be corre	having like indicated in the CR, would affect acted functionality otherwise.
	Impac	ted functionality:		
	<u>Evalu</u>	ation of IE "RRC transact	ion id	entifier"
	Note:	The corrections have no	forese	een impact on the T1 test specifications.
	Corre	ction:		
	If the shall a perfor	E "RRC transaction ident act upon this IE before an med.	tifier" y othe	is included in a received message the UE er action concerning this message is
	The c chang	nange has isolated impac e.	<u>t to th</u>	e UE, the UTRAN is not concerned by this
Consequences if not approved:	 1. If to the second seco	he integrity check is done UEs, a message addres MAC. If this happened, t ing to the loss of the RRC be use of different RRC S ing Downlink RRC HFNs of TRAN implementations no ate integrity protection in datory, the CELL_FACH s from Tdoc R2-021083] wrong handling of UE var ble which is necessary to ble changed before this viour.	e befo sed to he Do conr N in ro out of ot con CELL state iables decisi	are verifying if the message is addressed to be a different UE may by chance generate a bownlink RRC HFN would go out of sync, ection. epeated messages increases the possibility of sync between UE and UTRAN. forming to this statement will not be able to _FACH state. Since integrity protection is would become unusable. <u>a will cause erroneous UE behavior.The</u> de whether the transaction is accepted or not on is performed. This leads to erroneous UE
Clauses affected:	H Q Q	1 4 2 8 3 1 5 8 5 10 1 0	1	
Clauses allected:	њ <mark>0, 8.</mark>	1.4.2, 0.3.1.3, 0.3.10.1, 9	. 1	
Other specs	# O	her core specifications	Ħ	25.331 v3.10.0, CR 1424r1 25.331 v4.4.0, CR 1425r1

Other comments: #

affected:

How to create CRs using this form:

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

Test specifications O&M Specifications

- 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 <u>ftp://ftp.3gpp.org/specs/</u> 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 RRC procedures

The UE shall be able to process several simultaneous RRC procedures. After the reception of a message which invoked a procedure, the UE shall be prepared to receive and act on another message which may invoke a second procedure. Whether this second invocation of a procedure (transaction) is accepted or rejected by the UE is specified in the subclauses of this clause, and in particular in subclause 8.6.3.11 (RRC transaction identifier).

On receiving a message the UE shall first <u>check that the message is addressed to the UE (e.g. by checking the IE "Initial UE identity" or the IE "U-RNTI" for messages on CCCH) and discard the messages addressed to other UEs, then apply integrity check as appropriate, and then proceed with error handling as specified in clause 9, then act upon the IE "RRC transaction identifier", before continuing on with the procedure as specified in the relevant subclause. The RRC entity in the UE shall consider PDUs to have been transmitted when they are submitted to the lower layers. If the RRC entity in the UE submits a message for transmission using AM RLC, it shall consider the message successfully transmitted when the PDUs are sent on the radio interface in the case of the transmission using the CCCH.</u>

[...]

8.1.4.2 Initiation

When the UE is in state CELL_DCH or CELL_FACH, the UTRAN may at anytime initiate an RRC connection release by transmitting an RRC CONNECTION RELEASE message using UM RLC.

When UTRAN transmits an RRC CONNECTION RELEASE message the downlink DCCH should be used, if available. If the downlink DCCH is not available in UTRAN and the UE is in CELL_FACH state, the downlink CCCH may be used.

UTRAN may transmit several RRC CONNECTION RELEASE messages to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages shall should be the same. This shall also apply to the RRC CONNECTION RELEASE COMPLETE message. The number of repeated messages and the interval between the messages is a network option.

[...]

8.3.1.5 Reception of an CELL UPDATE/URA UPDATE message by the UTRAN

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

- 1> in case the procedure was triggered by reception of a CELL UPDATE:
 - 2> if SRNS relocation was performed:

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH.

- 2> otherwise:
 - 3> update the START value for each CN domain as maintained in UTRAN (refer to subclause 8.5.9) with "START" in the IE "START list" for the CN domain as indicated by "CN domain identity" in the IE "START list";
 - 3> if this procedure was triggered while the UE was not in CELL_DCH state, then for each CN domain as indicated by "CN domain identity" in the IE "START list":

4> set the 20 MSB of the MAC-d HFN with the corresponding START value in the IE "START list";

4> set the remaining LSB of the MAC-d HFN to zero.

3> transmit a CELL UPDATE CONFIRM message on the downlink DCCH or optionally on the CCCH but only if ciphering is not required; and

- 3> optionally include the IE "RLC re-establish indicator (RB5 and upwards)" to request a RLC reestablishment in the UE, in which case the corresponding RLC entities should also be re-established in UTRAN; or
- 1> in case the procedure was triggered by reception of a URA UPDATE:
 - 2> if SRNS relocation was performed:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink DCCH.
 - 2> otherwise:
 - 3> transmit a URA UPDATE CONFIRM message on the downlink CCCH or DCCH.
 - 2> include the IE "URA identity" in the URA UPDATE CONFIRM message in a cell where multiple URA identifiers are broadcast; or
- 1> initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:
 - 2> if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:
 - 3> initiate an RRC connection release procedure (subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

<u>UTRAN may transmit several CELL UPDATE CONFIRM/URA UPDATE CONFIRM messages to increase the</u> probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

8.5.10.1 Integrity protection in downlink

If the UE receives an RRC message on signalling radio bearer with RB identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is present the UE shall:

- 1> check the value of the IE "RRC message sequence number" included in the IE "Integrity check info";
 - 2> if the "Downlink RRC Message sequence number" is not present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> initialise the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received message.
 - 2> if the "Downlink RRC Message sequence number" is present in the variable INTEGRITY_PROTECTION_INFO:
 - 3> if the RRC message sequence number is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> increment "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with one.
 - 3> if the RRC message sequence number is equal to the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO:
 - 4> discard the message.
- 1> calculate an expected message authentication code in accordance with subclause 8.5.10.3;
- 1> compare the expected message authentication code with the value of the received IE "message authentication code" contained in the IE "Integrity check info";
 - 2> if the expected message authentication code and the received message authentication code are the same, the integrity check is successful:

- 3> update the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO with the value of the IE "RRC message sequence number" included in the IE "Integrity check info" of the received RRC message.
- 2> if the calculated expected message authentication code and the received message authentication code differ:
 - 3> if the IE "RRC message sequence number" included in the IE "Integrity check info" is lower than the "Downlink RRC Message sequence number" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO (in this case the "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO was incremented by one, as stated above):
 - 4> decrement "Downlink RRC HFN" for signalling radio bearer RBn in the variable INTEGRITY_PROTECTION_INFO by one.
 - 3> discard the message.

If the UE receives an RRC message on signalling radio bearer with identity n, the "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is not present the UE shall:

1> discard the message.

UTRAN may transmit several copies of the same message in downlink to increase the probability of proper reception of the message by the UE. In such a case, the RRC SN for these repeated messages should be the same.

[...]

9.1 General

This subclause specifies procedures for the handling of unknown, unforeseen, and erroneous protocol data by the receiving entity. These procedures are called "error handling procedures", but in addition to provide recovery mechanisms for error situations they define a compatibility mechanism for future extensions of the protocol.

The error handling procedures specified in this subclause shall apply to all RRC messages. When there is a specific handling for messages received on different logical channels this is specified.

For system information received on the BCCH, the error handling procedures are applied on the BCCH message SYSTEM INFORMATION, the re-assembled system information segments as well as the system information blocks (including the master information block and the scheduling blocks), with specific error handling as specified below.

When the UE receives an RRC message, it shall set the variable PROTOCOL_ERROR_REJECT to FALSE and then perform the checks in the order as defined below.

The procedures specified in clause 8 are applied only for the messages passing the checks as defined below, except when procedure specific handling is used to recover from the error.

The error cases specified in the following include the handling upon reception of spare values. This behaviour also applies in case the actual value of the IE results from mapping the originally sent IE value. Moreover, in certain error cases, as specified in the following, default values apply. In this case, the default values specified within the ASN.1, the tabular and the procedure specifications apply.

[...]