Title:　　　　**Agreed CRs to TS 25.331 (1)**

Source:　　　**TSG-RAN WG2**

Agenda item:　**5.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Subject	Cat	Version	Versio
R2-001930	agreed	25.331	536		Downlink outer-loop power control in compressed mode	F	3.4.1	3.5.0
R2-002065	agreed	25.331	537	1	Correction in the use of "U-RNTI Short"	F	3.4.1	3.5.0
R2-001942	agreed	25.331	538		Corrections related to UE Timing	F	3.4.1	3.5.0
R2-001943	agreed	25.331	539		Corrections to SFN-SFN definition	F	3.4.1	3.5.0
R2-002224	agreed	25.331	541	1	Corrections to definition and use of Activation Time	F	3.4.1	3.5.0
R2-001946	agreed	25.331	542		Corrections to logical channel priorities	F	3.4.1	3.5.0
R2-002066	agreed	25.331	543	1	Correction to codec negotiation	F	3.4.1	3.5.0
R2-002068	agreed	25.331	544	1	CFN-SFN observed time difference measurement	F	3.4.1	3.5.0
R2-002069	agreed	25.331	545	1	Correction to timing indication for hard handover	F	3.4.1	3.5.0
R2-002067	agreed	25.331	546	1	UE Radio Access Capability Corrections	F	3.4.1	3.5.0
R2-002267	agreed	25.331	548	1	RRC establishment and paging causes for NAS signalling	F	3.4.1	3.5.0
R2-001962	agreed	25.331	549		Corrections to Intra-frequency measurements and Traffic volume measurements	F	3.4.1	3.5.0
R2-002077	agreed	25.331	551	1	PRACH/RACH System information	F	3.4.1	3.5.0
R2-002082	agreed	25.331	553	1	GSM Measurement reporting	F	3.4.1	3.5.0
R2-002083	agreed	25.331	554	1	BLER measurement and quality target	F	3.4.1	3.5.0
R2-002084	agreed	25.331	556	1	Clarification of PDCP sequence number window terminology	F	3.4.1	3.5.0
R2-002085	agreed	25.331	559	1	Clarification on Error Handling	F	3.4.1	3.5.0
R2-001986	agreed	25.331	560		Removal of compressed mode measurement purpose "other"	F	3.4.1	3.5.0
R2-001987	agreed	25.331	561		Clarification of compressed mode measurement purpose "GSM"	F	3.4.1	3.5.0
R2-002321	agreed	25.331	564	2	Reporting multiple GSM cells	F	3.4.1	3.5.0

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25.331	CR	**536**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	For approval	**X**	strategic		(for SMG
List expected approval meeting # here ↑		for information		non-strategic		use only)

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:**   2000-10-9

Subject: Downlink outer-loop power control in compressed mode

Work item: Outer-loop power control

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
(only one category   A   Corresponds to a correction in an earlier release   Release 96   ☐
                        B   Addition of feature   Release 97   ☐
Shall be marked   C   Functional modification of feature   Release 98   ☐
With an X)   D   Editorial modification   Release 99   **X**
                                                                                                              Release 00   ☐

Reason for change: Clarification of the outer-loop power control in compressed mode section

Clauses affected: 10.3.6.32, 14.7.2

Other specs Affected:	Other 3G core specifications	☐	→ List of CRs:	
	Other GSM core specifications	☐	→ List of CRs:	
	MS test specifications	☐	→ List of CRs:	
	BSS test specifications	☐	→ List of CRs:	
	O&M specifications	☐	→ List of CRs:	

Other comments:

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10.3.6.32 DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern sequence		1 to <maxTGPS>		
> TGPSI	MP		TGPSI 10.3.6.80	
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be activated or deactivated.
>Transmission gap pattern sequence configuration parameters	OP			
>> TGMP	MP		Enumerated(TDD measurement, FDD measurement, GSM measurement, Other)	Transmission Gap pattern sequence Measurement Purpose.
>> TGPRC	MP		Integer (1..63, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>> TGCFN	MP		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>> TGSN	MP		Integer (0..14)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>TGL1	MP		Integer(1..14)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>> TGL2	MD		Integer (1..14)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(15..269, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gaps 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 (1..144)	The duration of transmission gap pattern 1.
>> TGPL2	MD		Integer (1..144)	The duration of transmission gap pattern 2. If omitted, then 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.
>>UL/DL mode	MP		Enumerated (UL only, DL only, UL/DL)	Defines whether only DL, only UL, or combined UL/DL compressed mode is used.
>> Downlink compressed mode method	CV DL		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>> Uplink compressed mode method	CV UL		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the ~~compressed~~ frame~~s corresponding to~~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(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the ~~compressed~~ frame~~s corresponding to~~containing the start of the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				~~compressed~~ frame~~s corresponding to~~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(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the ~~compressed~~ frame~~s corresponding to~~containing the start of the second transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.

Condition	Explanation
UL	This information element is only sent when the value of the "UL/DL mode" IE is "UL only" or "UL/DL".
DL	This information element is only sent when the value of the "UL/DL mode" IE is "DL only" or "UL/DL".

14.7.2   Downlink power control in compressed mode

In compressed mode, the target SIR needs to be changed ~~during compressed frames and one frame after compressed frames (recovery frame),~~ in several frames compared to normal mode. For this purpose, four values DeltaSIR1, DeltaSIRafter1, DeltaSIR2 and DeltaSIRafter2 are signalled by the UTRAN to the UE (see section 10.2.9).

For each frame, the target SIR offset during compressed mode, compared to normal mode is:

$$\Delta SIR = max\ (\Delta SIR1\_compression, \ldots , \Delta SIRn\_compression) + \Delta SIR1\_coding + \Delta SIR2\_coding$$

where n is the number of TTI lengths for all TrChs of the CCTrCh, F_i is the length in number of frames of the i-th TTI and where ΔSIR_coding fulfils:

- $\Delta SIR1\_coding$= DeltaSIR1 if the start of the first transmission gap in the transmission gap pattern is within the current frame. ~~for compressed frames corresponding to the first transmission gap in the transmission gap pattern.~~

- $\Delta SIR1\_coding$= DeltaSIRafter1 if the current frame just follows a frame containing the start of the first transmission gap in the transmission gap pattern. ~~for recovery frames corresponding to the first transmission gap in the transmission gap pattern.~~

- $\Delta SIR2\_coding$= DeltaSIR2 if the start of the second transmission gap in the transmission gap pattern is within the current frame. ~~for compressed frames corresponding to the second transmission gap in the transmission gap pattern.~~

- $\Delta SIR2\_coding$= DeltaSIRafter2 if the current frame just follows a frame containing the start of the second transmission gap in the transmission gap pattern. ~~for recovery frames corresponding to the second transmission gap in the transmission gap pattern.~~

- $\Delta SIR1\_coding$= 0 and $\Delta SIR2\_coding$= 0 otherwise.

and $\Delta SIRi\_compression$ is defined by :

- $\Delta SIRi\_compression$ = 3 dB for downlink frames compressed by reducing the spreading factor by 2.

- $\Delta SIRi\_compression$ = 10 log (15*F_i / (15*F_i - TGL_i)) if there is a transmission gap created by puncturing method within the current TTI of length F_i frames, where TGL_i is the gap length in number of slots (either from one gap or a sum of gaps) in the current TTI of length F_i frames.

- $\Delta SIRi\_compression$ = 0 dB in all other cases.

~~If the frames are compressed by reducing the spreading factor by 2 ("Compressed mode method" IE is equal to "SF/2"):~~

~~$\Delta SIRi\_compression$= 3 dB for each compressed frame, where TGL is the gap length in number of slots (either from one gap or a sum of gaps) in the frame.~~

~~$\Delta SIRi\_compression$= 0 otherwise.~~

~~If the frames are compressed by puncturing ("Compressed mode method" IE is equal to "puncturing"):~~

~~$\Delta SIRi\_compression$= 10 log (15*F_i / (15*F_i - TGL_i)) if there is a transmission gap within the current TTI of length F_i frames, where TGL_i is the gap length in number of slots (either from one gap or a sum of gaps) in the current TTI of length F_i frames.~~

~~$\Delta SIRi\_compression$= 0 otherwise.~~

~~If the frames are compressed by upper layer scheduling ("Compressed mode method" IE is equal to "upper layer scheduling"):~~

~~$\Delta SIRi\_compression$= 0 for all frames.~~

~~In the particular case where a transmission gap overlaps two frames (double-frame method), the second compressed frame (with the second part of the transmission gap) must be considered as the recovery frame (ΔSIR_coding =~~

DeltaSIRafter1 or ΔSIR_coding = DeltaSIRafter2). Thus, in this case, the first frame following the two consecutive compressed frames is not considered as a recovery frame (ΔSIR_coding=0).

Several compressed mode patterns applying to the same frames should be avoided as much as possible.

In particular; several simultaneous patterns by puncturing applying to the same frames shall be considered as a protocol error by the UE. The handling of this error is described in the procedure descriptions in clause 8

In case several compressed mode patterns are used simultaneously, a ΔSIR offset is computed for each compressed mode pattern and the sum of all ΔSIR offsets is applied to the frame.

In case several compressed mode patterns apply to the same frame or in case a frame is simultaneously a compressed frame in one pattern and a recovery frame in the same pattern or in another pattern, all offsets must be added and the total target SIR offset is applied to the frame.

3GPP TSG-RAN WG2 Meeting #16	*Document*	**R2-002065**
Beijing, China, 9-13 October 2000		*e.g. for 3GPP use the format TP-99xxx* *or for SMG, use the format P-99-xxx*

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25.331	**CR**	**537r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: **TSG-RAN #10**   for approval   **X**   strategic   *(for SMG*
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Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	October 9, 2000

Subject:	Correction in the use of "U-RNTI Short"

Work item:	

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
          A   Corresponds to a correction in an earlier release   ☐   Release 96   ☐
(only one category   B   Addition of feature   ☐   Release 97   ☐
shall be marked   C   Functional modification of feature   ☐   Release 98   ☐
with an X)   D   Editorial modification   ☐   Release 99   **X**
                                                            Release 00   ☐

Reason for change:	"U-RNTI Short", which is used in the "HANDOVER TO UTRAN COMMAND" is 10 bit shorter than the U-RNTI. The padding rules are currently not defined. ASN.1 has also been corrected and made consistent with the Tabular Format.

Clauses affected:	8.3.6.3, 11.3.3

Other specs affected:	Other 3G core specifications	☐	→ List of CRs:	
	Other GSM core specifications	☐	→ List of CRs:	
	MS test specifications	☐	→ List of CRs:	
		☐	→ List of CRs:	
	O&M specifications	☐	→ List of CRs:	

Other comments:	

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8.3.6.3 Reception of HANDOVER TO UTRAN COMMAND message by the UE

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

The UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- store a U-RNTI value (32 bits), which is derived by the IEs "SRNC identity" (12 bits) and "S-RNTI 2" (10 bits) included in IE "U-RNTI-short". In order to produce a full size U-RNTI value, a full size "S-RNTI" (20 bits) shall be derived by padding the IE "S-RNTI 2" with 10 zero bits in the most significant positions;store the value of the IE "U-RNTI".; and

- initiate the signalling link, the RB(s) and traffic channel(s) in accordance with the predefined parameters identified by the IE "Predefined radio configuration identity";

- initiate the physical channels in accordance with the predefined parameters identified by the IE "Predefined radio configuration identity" and the received physical channel information elements;

- perform an open loop estimation to determine the UL transmission power, taking into account the received IE "Maximum allowed UL TX power" and move to CELL_DCH state;

- apply the same ciphering (ciphered/ unciphered, algorithm) as prior to inter system handover, unless a change of algorithm is requested by means of the "Ciphering algorithm".

If the UE succeeds in establishing the connection to UTRAN, it shall:

- transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH;

- when the successful delivery of the HANDOVER TO UTRAN COMPLETE message has been confirmed by RLC, the procedure ends.

[…]

10.3.3.45 U-RNTI

The U-RNTI (UTRAN Radio Network Temporary Identity) is allocated to an UE having a RRC connection and identifies the UE within UTRAN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SRNC identity	MP		bit string(12)	
S-RNTI	MP		bit string(20)	

10.3.3.46 U-RNTI Short

The U-RNTI (UTRAN Radio Network Temporary Identity) is allocated to an UE having a RRC connection and identifies the UE within UTRAN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SRNC identity	MP		bit string(12)	
S-RNTI 2	MP		bit string(10)	

[…]

11.3.3 User equipment information elements

[…]

```
S-RNTI ::=                          BIT STRING (SIZE (20))
S-RNTI-2 ::=                        BIT STRING (SIZE (10))INTEGER (0..1023)
```

[…]

3GPP TSG-RAN WG2 Meeting #16

Beijing, China, 9-13 October 2000

Document **R2-001942**

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25.331	**CR**	**538**		Current Version:	3.4.1	

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: TSG-RAN #10   for approval   **X**   strategic | *(for SMG*
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↑

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:**   October 9, 2000

Subject: Corrections related to UE Timing

Work item:

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
                     A   Corresponds to a correction in an earlier release   Release 96   ☐
(only one category   B   Addition of feature   Release 97   ☐
shall be marked   C   Functional modification of feature   Release 98   ☐
with an X)   D   Editorial modification   Release 99   **X**
                                                                                          Release 00   ☐

Reason for change: Alignment of RRC Protocol specifications with the decisions of   RAN WG1 and RAN WG4. The main causes for the changes are listed in the following:

- UE Rx-Tx time difference (regular and LCS) range is not correct

- UE Rx-Tx time difference is *clearly* separated into Type 1 and Type 2 (LCS)

- "First significant path" is changed to "first detected path (in time)"

Moreover, the resolution of "Rx-Tx Time Difference LCS" has been changed to 1/16 of a chip in accordance with TS 25.133 (Decision in RAN WG4)

Clauses affected: 10.3.7.62, 10.3.7.101, 10.3.7.105, 10.3.7.108, 10.3.7.nn (new), 11.3.7

Other specs   Other 3G core specifications   ☐   →   List of CRs:
affected: Other GSM core specifications   ☐   →   List of CRs:
                   MS test specifications   ☐   →   List of CRs:
                                                    ☐   →   List of CRs:
                   O&M specifications   ☐   →   List of CRs:

Other

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10.3.7.62   LCS OTDOA measurement

The purpose of the OTDOA Measurement Information element is to provide OTDOA measurements of signals sent from the reference and neighbor cells.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	MP		Integer(0..4095)	SFN during which the last measurement was performed
UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.nnReal(876..1172 by step of 0.25)	The UE Rx-Tx timing can be used to determine the propagation delay In chips
Quality type	OP		Enumerated(STD_10,STD_50,CPICH Ec/N0)	Type of quality in the quality field, default=DEFAULT_QUALITY
CHOICE Quality type	MP			
>STD_10				
>>Reference Quality 10	MP		Integer(10..320 by step of 10)	Std of TOA measurements from the cell
>STD_50				
>>Reference Quality 50	MP		Integer(50..1600 by step of 50)	Std of TOA measurements from the cell
>CPICH Ec/N0				
>>CPICH Ec/N0	MP		Enumerated(<−24, -24 dB ≤ CPICH Ec/No < −23 dB,.. −1 dB ≤ CPICH Ec/No < −0 dB, >=0 dB)	CPICH Ec/N0 for the measurement
>DEFAULT_QUALITY				
>>Reference Quality	MP		Enumerated(0-19 meters, 20-39 meters, 40-79 meters, 80-159 meters, 160-319 meters, 320-639 meters, 640-1319 meters over 1320 meters)	Estimated error in meters.
Neighbors	MP	0..maxCellMeas		Number of neighbors included in this IE
>Neighbor Identity	OP		Primary CPICH info 10.3.6.59	If this field is left out it the identity is the same as in the first set of multiple sets.
>Neighbor Quality	MP		Bit string(depends on Quality type)	Quality of the OTDOA from the neighbor cell.
>SFN-SFN observed time difference	MP		SFN-SFN observed time difference 10.3.7.88	Gives the timing relative to the reference cell. Only type 2 is allowed. Type 2 means that only the slot timing is accounted for

CHOICE *Quality type*	Condition under which the given quality type is chosen
STD_10	Chosen when the quality type is standard deviation with a step-size of 10 m
STD_50	Chosen when the quality type is standard deviation with a step-size of 50 m
CPICH Ec/N0	Chosen when the quality type is CPICH Ec/N0
Default	Chosen if the quality type field is not included.

[…]

10.3.7.101   UE internal measured results

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *mode*	MP			
>FDD				
>>UE Transmitted Power	OP		Integer(-50..33)	UE transmitted power In dBm
>>UE Rx-Tx report entries	OP	1 to <maxRL>		
>>>Primary CPICH info	MP		Primary CPICH info 10.3.6.59	Primary CPICH info for each cell included in the active set
>>>UE Rx-Tx time difference type 1	MP		UE Rx-Tx time difference type 1 10.3.7.108	UE Rx-Tx time difference in chip for each RL included in the active set
>TDD				
>>UE transmitted Power list	OP	1 to <maxTS>		UE transmitted power for each used uplink timeslot in ascending timeslot number order
>>>UE transmitted power	MP		UE transmitted power info 10.3.7.109	
>>Applied TA	OP		Uplink Timing Advance 10.3.6.93	

[…]

10.3.7.105   UE internal measurement reporting criteria

The triggering of the event-triggered reporting for a UE internal measurement. All events concerning UE internal measurements are labelled 6x where x is a, b, c…. In TDD, the events 6a - 6d are measured and reported on timeslot basis.

Event 6a: The UE Transmitted Power becomes larger than an absolute threshold

Event 6b: The UE Transmitted Power becomes less than an absolute threshold

Event 6c: The UE Transmitted Power reaches its minimum value

Event 6d: The UE Transmitted Power reaches its maximum value

Event 6e: The UE RSSI reaches the UEs dynamic receiver range

Event 6f: The UE Rx-Tx time difference for a RL included in the active set becomes larger than an absolute threshold

Event 6g: The UE Rx-Tx time difference for a RL included in the active set becomes less than an absolute threshold

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Parameters sent for each UE internal measurement event	OP	1 to <maxMeas Event>		
> UE internal event identity	MP		UE internal event identity 10.3.7.100	
>Time-to-trigger	MP		Integer(0, 10, 20, 40, 60, 80, 100, 120, 160, 200, 240, 320, 640, 1280, 2560, 5000)	Time in ms. Indicates the period of time between the timing of event detection and the timing of sending Measurement Report.
>UE Transmitted power Tx power threshold	CV - clause 1		Integer(-50..33)	Power in dBm. In event 6a, 6b.
>UE Rx-Tx time difference threshold	CV - clause 2		Integer(~~769~~768..1280)	Time difference in chip. In event 6f, 6g.

Condition	Explanation
Clause 1	The IE is mandatory if UE internal event identity" is set to "6a" or "6b", otherwise the IE is not needed
Clause 2	The IE is mandatory if "UE internal event identity" is set to "6f" or "6g", otherwise the IE is not needed

[…]

10.3.7.108   UE Rx-Tx time difference type 1

The difference in time between the UE uplink DPCCH/DPDCH frame transmission and the first detected path (in time)~~first significant path~~, of the downlink DPCH frame from the measured radio link. This measurement is for FDD only.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE Rx-Tx time difference type 1	MP		Integer(768..128~~0~~087~~6.. 1172~~)	In chips.

[…]

10.3.7.nn   UE Rx-Tx time difference type 2

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE Rx-Tx time difference type 2	MP		Real(768.0.. 1279.9375 by step of 0.0625)	Resolution of 1/16 of a chip.

[…]

11.3.7   Measurement information elements

[…]

```
LCS-OTDOA-Measurement ::=              SEQUENCE {
    sfn                                INTEGER (0..4095),
        Actual value = IE value * 0.25 + 876
    ue-Rx-Tx-TimeDifferenceType2       UE-Rx-Tx-TimeDifferenceType2    INTEGER (0..1184),
    qualityType                        QualityType,
    qualityChoice                      CHOICE {
        std-10                         ReferenceQuality10,
        std-50                         ReferenceQuality50,
        cpich-EcN0                     CPICH-Ec-N0-OTDOA,
        defaultQuality                 ReferenceQuality
    },
    neighborList                       NeighborList                    OPTIONAL
}
```

[...]

```
UE-RX-TX-ReportEntry ::=              SEQUENCE {
    primaryCPICH-Info                 PrimaryCPICH-Info,
    ue-RX-TX-TimeDifferenceType1      UE-RX-TX-TimeDifferenceType1
}
```

[...]

```
UE-RX-TX-TimeDifferenceType1 ::=              INTEGER (876..1172768..1280)

-- Actual value = IE value * 0.0625 + 768
UE-RX-TX-TimeDifferenceType2 ::=          INTEGER (0..8191)


UE-RX-TX-TimeDifferenceThreshold ::= INTEGER (769768..1280)
```

3GPP TSG-RAN WG2 Meeting #16	*Document*	**R2-001943**
Beijing, China, 9-13 October 2000		*e.g. for 3GPP use the format TP-99xxx*
		or for SMG, use the format P-99-xxx

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25.331	**CR**	**539**	Current Version:	**3.4.1**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	**TSG-RAN #10**	for approval	**X**	strategic		*(for SMG*
list expected approval meeting # here		for information		non-strategic		*use only)*
↑						

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects:	(U)SIM		ME	**X**	UTRAN / Radio	**X**	Core Network	

(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	October 9, 2000

Subject:	Corrections to SFN-SFN definition

Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	Alignment with TS 25.133.
	The resolution and range of SFN-SFN observed time difference type 2 is corrected in accordance with TS 25.133.

Clauses affected:	10.3.7.88, 11.3.7

Other specs affected:	Other 3G core specifications		→	List of CRs:	
	Other GSM core specifications		→	List of CRs:	
	MS test specifications		→	List of CRs:	
			→	List of CRs:	
	O&M specifications		→	List of CRs:	

Other comments:	Note that UE Rx-Tx time difference used for LCS has been corrected in 25.331 CR 538

help.doc

<-------- double-click here for help and instructions on how to create a CR.

10.3.7.88   SFN-SFN observed time difference

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *type*	MP			
>Type 1			Integer(0..9830399)	Number of chips
>Type 2			Real(-~~1279.75~~1280.0..1280.0 by step of ~~0.25~~0.0625)	~~Number of chips~~Resolution of 1/16 of a chip.

[…]

11.3.7   Measurement information elements

[…]

```
SFN-SFN-ObsTimeDifference ::=        CHOICE {
    type1                            SFN-SFN-ObsTimeDifference1,
    -- Actual value for type2 = IE value * 0.250.0625 - 1280
    type2                            SFN-SFN-ObsTimeDifference2
}

SFN-SFN-ObsTimeDifference1 ::=       INTEGER (0..9830399)

SFN-SFN-ObsTimeDifference2 ::=       INTEGER ( -51190..512040961)
```

[…]

3GPP TSG-RAN WG2 Meeting #17	*Document* **R2-002224**
Sophia Antipolis, France, 13-17 November 2000	*e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx*

CHANGE REQUEST

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25.331 CR	**541r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	**X**	strategic		*(for SMG*
list expected approval meeting # here ↑		for information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2		**Date:**	Nov. 13, 2000

Subject:	Corrections to definition and use of Activation Time

Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	The following changes are proposed:
	1. The changes ordered by UTRAN shall take effect at the activation time. The current specification definition states "changes … shall be executed", which is ambiguous if the execution time is not zero.
	2. Currently no provision is made for the case in which the Activaion Time falls in the middle of a TTI. It is here proposed to "start using the new configuration at the next TTI boundary common to all the affected transport formats."

Clauses affected:	8.6.3.1, 10.3.3.1

Other specs affected:	Other 3G core specifications		→ List of CRs:	
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
			→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

<--------- double-click here for help and instructions on how to create a CR.

8.6.3.1   Activation time

If the IE "Activation time" is present, the UE shall:

- ~~activate~~ start using the new configuration present in the same message as this IE at the indicated time.

- if the activation time is not at the TTI boundary of ~~any of~~one or more of the affected transport formats, the UE shall ~~send the corresponding failure message to the UTRAN~~start using the new configuration at the next TTI boundary common to all the affected transport formats.~~. The UE shall set the failure cause to "Incompatible TTI".~~

NOTE: The new configuration is typically a dedicated physical channel present in the same message as the IE "Activation time".

[…]

10.3.3.1   Activation time

Activation Time defines the frame number/time at which the operation/changes caused by the related message shall ~~be executed~~take effect. Values between 0 and 255 indicate the absolute value of CFN (Connection Frame Number) of that frame number/time.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Activation time	MP		Integer(0.. 255, Now)	CFN [TS 25.402]

CHANGE REQUEST

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25.331	**CR**	**542**		Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	**X**	strategic		*(for SMG*
list expected approval meeting # here ↑		for information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	October 9, 2000

Subject:	Corrections to logical channel priorities

Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	With the absolute priority scheme, the "Logical channel max loss" parameter in "RB mapping info" is not needed and is removed.

Clauses affected:	10.3.4.21, 11.3.4

Other specs affected:	Other 3G core specifications		→ List of CRs:	25.321 CR 053
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
			→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

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<--------- double-click here for help and instructions on how to create a CR.

10.3.4.21   RB mapping info

A multiplexing option for each possible transport channel this RB can be multiplexed on.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Information for each multiplexing option	MP	1 to <maxRBMuxOptions>		
>RLC logical channel mapping indicator	CV-UL-RLCLogicalChannels		Boolean	TRUE indicates that the first logical channel shall be used for data PDUs and the second logical channel shall be used for control PDUs. FALSE indicates that control and data PDUs can be sent on either of the two logical channels.
>Number of uplink RLC logical channels	CV-*UL-RLC info*	1 to MaxLoCHperRLC		1 or 2 logical channels per RLC entity or radio bearer RLC [TS 25.322]
>>Uplink transport channel type	MP		Enumerated(DCH,RACH,CPCH,USCH)	CPCH is FDD only USCH is TDD only
>>ULTransport channel identity	CV-*UL-DCH/USCH*		Transport channel identity 10.3.5.18	This is the ID of a DCH or USCH (TDD only) that this RB could be mapped onto.
>>Logical channel identity	OP		Integer(1..15)	This parameter is used to distinguish logical channels multiplexed by MAC on a transport channel.
>>MAC logical channel priority	MP		Integer(1..8)	This is priority between a user's different RBs (or logical channels). [25.321]
>>Logical channel max loss	MD		Integer(0,5,10,15,20,25,30,35,40,45,50,55,60,65,70,75,80,85,90,95,100)	[see 25.321]. Default value is 0.
>Number of downlink RLC logical channels	CV-*DL-RLC info*	1 to MaxLoCHperRLC		1 or 2 logical channels per RLC entity or radio bearer RLC [TS 25.322]
>>Downlink transport channel type	MP		Enumerated(DCH,FACH,DSCH)	
>>DL Transport channel identity	CV-*DL-DCH/DSCH*		Transport channel identity 10.3.5.18	
>>Logical channel identity	OP		Integer(1..15)	16 is reserved

Condition	Explanation
UL-RLC info	If "CHOICE Uplink RLC mode" in IE "RLC info" is present this IE is MP. Otherwise the IE is not needed.
DL-RLC info	If "CHOICE Downlink RLC mode" in IE "RLC info" is present this IE is MP. Otherwise the IE is not needed.
UL-RLCLogicalChannels	If "Number of uplink RLC logical channels" in IE "RB mapping info" is 2, then this is present. Otherwise this IE is not needed.
UL-DCH/USCH	If IE "Uplink transport channel type" is equal to "DCH" or "USCH" (TDD only) this IE is MP. Otherwise the IE is not needed.
DL-DCH/DSCH	If IE "Downlink transport channel type" is equal to "DCH" or "DSCH" this IE is MP. Otherwise the IE is not needed.

[…]

11.3.4 Radio bearer information elements

[…]

```
LogicalChannelIdentity ::=          INTEGER (1..15)


LogicalChannelMaxLoss ::=           ENUMERATED {
                                    lcm0, lcm5, lcm10, lcm15, lcm20, lcm25,
                                    lcm30, lcm35, lcm40, lcm45, lcm50, lcm55,
                                    lcm60, lcm65, lcm70, lcm75, lcm80, lcm85,
                                    lcm90, lcm95, lcm100 }
```
[…]

```
UL-LogicalChannelMapping ::=        SEQUENCE {
    -- TABULAR: UL-TransportChannelType contains TransportChannelIdentity as well.
    ul-TransportChannelType         UL-TransportChannelType,
    logicalChannelIdentity          LogicalChannelIdentity              OPTIONAL,
    mac-LogicalChannelPriority      MAC-LogicalChannelPriority,
    logicalChannelMaxLoss           LogicalChannelMaxLoss               DEFAULT lcm0
}
```

CHANGE REQUEST

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25.331	CR	**543r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	X	strategic		(for SMG
list expected approval meeting # here ↑		for information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM [ ]   ME [X]   UTRAN / Radio [X]   Core Network [ ]
(at least one should be marked with an X)

Source:	TSG-RAN WG2		**Date:**	10/10/2000

Subject: Correction to codec negotiation

Work item:

Category: F   Correction   [X]   **Release:**   Phase 2   [ ]
                       A   Corresponds to a correction in an earlier release   [ ]   Release 96   [ ]
(only one category   B   Addition of feature   [ ]   Release 97   [ ]
shall be marked   C   Functional modification of feature   [ ]   Release 98   [ ]
with an X)   D   Editorial modification   [ ]   Release 99   [X]
                                                                                                                            Release 00   [ ]

Reason for change: The NAS synchronisation information may also be needed in case of handover to UTRAN procedures. Therefore it needs to be included in the IE "RAB info short" (part of handover to UTRAN message).
A clarifying sentence is added in the procedure part to clarify the requirements for synchronised action between AS and NAS.

Clauses affected: 8.6.4.4 (new), 8.6.8.1, 10.3.4.8, 10.3.4.9, 10.3.4.11, 10.3.4.12, 11.3.4

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:	
Other GSM core specifications	[ ]	→ List of CRs:	
MS test specifications	[ ]	→ List of CRs:	
BSS test specifications	[ ]	→ List of CRs:	
O&M specifications	[ ]	→ List of CRs:	

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.6.4.4   NAS Synchronisation Indicator

If the IE "NAS Synchronisation Indicator" is present in a message, the UE shall forward the content to the non-access stratum entity for the associated RAB at the CFN indicated in the IE "Activation time" in order to synchronise actions in NAS and AS.

10.3.4.8 RAB info

This IE contains information used to uniquely identify a radio access bearer.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RAB identity	MP		RAB identity 10.3.1.14	
CN domain identity	MP		CN domain identity 10.3.1.1	
~~RAB~~ NAS Synchronisation Indicator	OP		~~RAB~~ NAS Synchronisation in~~dicator~~fo 10.3.4.12	
Re-establishment timer	MP		Re-establishment timer 10.3.3.29	

10.3.4.9 RAB info short

This IE contains information used to uniquely identify a radio access bearer.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RAB identity	MP		RAB identity 10.3.1.14	
CN domain identity	MP		CN domain identity 10.3.1.1	
NAS Synchronisation Indicator	OP		NAS Synchronisation indicator 10.3.4.12	

10.3.4.11   RAB information to reconfigure

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RAB identity	MP		RAB Identity 10.3.1.14	
CN domain identity	MP		CN domain identity 10.3.1.1	
~~RAB~~ NAS synchronisation indicator	MP		~~RAB~~ NAS Synchronisation info 10.3.4.12	

10.3.4.12   ~~RAB~~ NAS Synchronisation in~~fo~~dicator

~~This IE contains information used to uniquely identify a radio access bearer.~~

A container for non-access stratum information to be transferred transparently through UTRAN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
NAS Synchronisation in~~fo~~dicator	MP		Bitstring(4)	

11.3.4 Radio bearer information elements

```
RadioBearer-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

    CN-DomainIdentity,
    NAS-Synchronisation-Indicator,
    RAB-Identity
FROM CoreNetwork-IEs

...

RAB-InformationReconfig ::=        SEQUENCE {
    rab-Identity                   RAB-Identity,
    cn-DomainIdentity              CN-DomainIdentity,
    nas-Synchronisation-Indicator  NAS-Synchronisation-Indicator
}


RAB-Info-Short ::=                 SEQUENCE {
    rab-Identity                   RAB-Identity,
    cn-DomainIdentity              CN-DomainIdentity,
    nas-Synchronisation-Indicator  NAS-Synchronisation-Indicator
}


RAB-InformationSetup ::=           SEQUENCE {
    rab-Info                       RAB-Info,
    nas-Synchronisation-Indicator  NAS-Synchronisation-Indicator   OPTIONAL,
    rb-InformationSetupList        RB-InformationSetupList
}

...
END
```

CHANGE REQUEST

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25.331	CR	**544r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	**TSG-RAN #10**	for approval	**X**		strategic		*(for SMG*
list expected approval meeting # here ↑		for information			non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM [ ] ME **X** UTRAN / Radio **X** Core Network [ ]
(at least one should be marked with an X)

Source:	TSG-RAN WG2		**Date:**	10/10/2000

Subject:	CFN-SFN observed time difference measurement

Work item:	

Category: F Correction **X** **Release:** Phase 2 [ ]
A Corresponds to a correction in an earlier release [ ] Release 96 [ ]
(only one category B Addition of feature [ ] Release 97 [ ]
shall be marked C Functional modification of feature [ ] Release 98 [ ]
with an X) D Editorial modification [ ] Release 99 **X**
Release 00 [ ]

Reason for change:	The name CFN-SFN observed time difference is not really appropriate. The IE "CFN-SFN observed time difference" is used for synchronisation purposes. I.e.
	- difference between PCCPCH and DPCH; referred to as Tm in WG1, WG3
	- difference CFN and SFN of target cell; referred to as OFF in WG1, WG3
	- for security in case of relocation additionally the 4 most significant bits of the difference between the 12 least significant bits of the transparent mode RLC COUNT-C and SFN of target cell
	For the sake of clarity it is proposed to refer to these different values in the IE and rename the information element to Cell synchronisation information.
	Since there are cases in which the SFN of neighbour cells is not read (for example for interfrequency measurements) it is reasonable to change parameters depending of the neighbour cell SFN to be OPTIONAL.

Clauses affected:	8.3.5.2.1, 8.6.7.5, 10.3.7.3, 10.3.7.5, 10.3.7.6, 10.3.7.85, 11.3.7

Other specs affected:	Other 3G core specifications	[ ]	→ List of CRs:	
	Other GSM core specifications	[ ]	→ List of CRs:	
	MS test specifications	[ ]	→ List of CRs:	
	BSS test specifications	[ ]	→ List of CRs:	
	O&M specifications	[ ]	→ List of CRs:	

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.3.5.2.1 General

The purpose of the synchronised hard handover procedure is to remove all the RL(s) in the active set and establish new RL(s) while maintaining the UL transmission timing and the CFN in the UE.

This procedure can be initiated only if UTRAN knows the target SFN timing before hard handover. The target SFN timing can be known by UTRAN in the following 2 cases:

- UE reads SFN when measuring "~~CFN-SFN observed time difference~~Cell synchronisation information" and sends it to the UTRAN in MEASUREMENT REPORT message.

- UTRAN internally knows the time difference between the cells.

8.6.7.5 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantitiesy", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall:

- in CELL_FACH state:

    - report the IE "Cell Identity" that is given in System Information Block type 4 (or type 3, if System Information Block type4 is not being broadcast).

- in CELL_DCH state:

    - treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities"

    - if the measurement is performed on another frequency a UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information".

    - if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE the UE shall set the IE "COUNT-C-SFN high" to 0.

    - otherwise the UE shall include the information group "COUNT-C-SFN frame difference".

10.3.7.3 Cell measured results

Includes non frequency related measured results for a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Identity	OP		Cell Identity 10.3.2.2	
SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.88	
~~CFN-SFN observed time difference~~Cell synchronisation information	OP		~~CFN-SFN observed time difference~~Cell synchronisation information 10.3.7.6	Note 2
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.59	
>>CPICH Ec/N0	OP		Integer(-20..0)	In dB
>>CPICH RSCP	OP		Integer(-115..-40)	In dBm
>>Pathloss	OP		Integer(46..158)	In dB
>TDD				
>>Cell parameters Id	MP		Cell parameters Id 10.3.6.8	
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.79	
>>Pathloss	OP		Integer(46..158)	In dB
>> Timeslot list	OP	1 to < maxTS>		
>>>Timeslot ISCP	MP		Timeslot ISCP Info 10.3.7.90	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info

NOTE 1: Feasibility of performing these measurements with compressed mode is unclear.

10.3.7.5 Cell reporting quantities

Includes non frequency related cell reporting quantities.

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SFN-SFN observed time difference reporting indicator	MP		Enumerated(No report, type 1, type 2)	
CFN-SFN observed time differenceCell synchronisation information reporting indicator	MP		Boolean	
Cell Identity reporting indicator	MP		Boolean	
CHOICE *mode*	MP			
>FDD				
>>CPICH Ec/N0 reporting indicator	MP		Boolean	
>>CPICH RSCP reporting indicator	MP		Boolean	
>>Pathloss reporting indicator	MP		Boolean	
>TDD				
>>Timeslot ISCP reporting indicator	MP		Boolean	
>>Primary CCPCH RSCP reporting indicator	MP		Boolean	
>>Pathloss reporting indicator	MP		Boolean	

10.3.7.6 ~~CFN-SFN observed time difference~~Cell synchronisation information

~~The measured time difference to cell indicates the time difference that is measured by UE between RLC Transparent Mode COUNT-C in the UE and the SFN of the target neighbouring cell.~~ The IE "Cell synchronisation information" contains the OFF and Tm as defined in 25.215 and 25.225 and the four most significant bits of the difference between the 12 least significant bits of the RLC Transparent Mode COUNT-C in the UE and the SFN of the measured cell. It is notified to SRNC by Measurement Report message or Measurement Information Element in other RRC messages

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE mode	MP			
>FDD				
~~>>CFN-SFN observed time difference~~	~~MP~~		~~Integer(0.. 157286399)~~	~~Number of chips~~
>>COUNT-C-SFN frame difference	OP			
>>>COUNT-C-SFN high	MP		Integer(0..3840 by step of 256)	in frames
>>>OFF	MP		Integer(0..255)	in frames
>>Tm	MP		Integer(0..38399)	in chips
>TDD				
~~>> CFN-SFN observed time difference~~	~~MP~~		~~Integer(0..4095)~~	~~Number of frames~~
>>COUNT-C-SFN frame difference	OP			
>>>COUNT-C-SFN high	MP		Integer(0..3840 by step of 256)	in frames
>>>OFF	MP		Integer(0..255)	in frames

NOTE: This measurement is only used in TDD when cells are not SFN synchronized

10.3.7.85 Reference time difference to cell

In the System Information message, the reference time difference to cell indicates the ~~SFN-SFN~~ tim~~ing~~e difference between the primary CCPCH of the current cell and the primary CCPCH of a neighbouring cell..

In the Measurement Control message, the the reference time difference to cell indicates the ~~CFN-SFN~~ tim~~ing~~e difference between UE uplink transmission timing and the primary CCPCH of a neighbouring cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *accuracy*	MP			
>40 chips				
>>Reference time difference	MP		Integer(0..38400 by step of 40)	In chips
>256 chips				
>>Reference time difference	MP		Integer(0.. 38400 by step of 256)	In chips
>2560 chips				
>>Reference time difference	MP		Integer(0.. 38400 by step of 2560)	In chips

11.3.7 Measurement information elements

```
Measurement-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN
...

CellMeasuredResults ::=                 SEQUENCE {
    cellIdentity                        CellIdentity                        OPTIONAL,
    sfn-SFN-ObsTimeDifference           SFN-SFN-ObsTimeDifference           OPTIONAL,
    cfn-SFN-ObsTimeDifferencecellSynchronisationInfo            CFN-SFN-
ObsTimeDifferenceCellSynchronisationInfo                OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            cpich-Ec-N0                         CPICH-Ec-N0                 OPTIONAL,
            cpich-RSCP                          CPICH-RSCP                  OPTIONAL,
            pathloss                            Pathloss                    OPTIONAL
        },
        tdd                                 SEQUENCE {
            cellParametersID                    CellParametersID,
            primaryCCPCH-RSCP                   PrimaryCCPCH-RSCP           OPTIONAL,
            timeslotISCP-List                   TimeslotISCP-List           OPTIONAL
        }
    }
}

...

CellReportingQuantities ::=             SEQUENCE {
    sfn-SFN-OTD-Type                    SFN-SFN-OTD-Type,
    cellIdentity-reportingIndicator                     BOOLEAN,
    cfn-SFN-ObsTimeDifferencecellSynchronisationInforeportingIndicator       BOOLEAN,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            cpich-Ec-N0-reportingIndicator                      BOOLEAN,
            cpich-RSCP-reportingIndicator                       BOOLEAN,
            pathloss-reportingIndicator                         BOOLEAN
        },
        tdd                                 SEQUENCE {
            timeslotISCP-reportingIndicator                     BOOLEAN,
            primaryCCPCH-RSCP-reportingIndicator                BOOLEAN,
            pathloss-reportingIndicator                         BOOLEAN
        }
    }
}


...

CFN-SFN-ObsTimeDifferenceCellSynchronisationInfo ::=             SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            countC-SFN-Frame-difference         CountC-SFN-Frame-difference     OPTIONAL,
            tm                                  INTEGER(0..38399)   CHOICE {
        },
        tdd                                 SEQUENCE {
            countC-SFN-Frame-difference         CountC-SFN-Frame-difference
        }
    }                           fdd-ChipDiff                        INTEGER (0..157286399),
        tdd-FrameDiff                       INTEGER (0..4095)
}

...

CountC-SFN-Frame-difference ::= SEQUENCE {
    countC-SFN-High                     INTEGER(0..15),         -- Actual value = IE value * 256
    off                                 INTEGER(0..255)
}

END
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331	CR	**545r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	**X**		strategic		*(for SMG*
list expected approval meeting # here ↑		for information			non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	28/09/2000

Subject:	Correction to timing indication for hard handover

Work item:	

Category: F   Correction   **X**   **Release:**

			Phase 2	
	A	Corresponds to a correction in an earlier release	Release 96	
(only one category	B	Addition of feature	Release 97	
shall be marked	C	Functional modification of feature	Release 98	
with an X)	D	Editorial modification	Release 99	**X**
			Release 00	

Reason for change:	A description for the setting of the CFN after intersystem handover to UTRAN is proposed to be included. A UE changing cells from for example GSM to UTRAN does not use a CFN. Thus the mechanisms used for UTRAN intrasystem handovers are not applicable. The initialisation of the CFN in this case is the same as for transition from CELL_FACH state to CELL_DCH state. Additionally, the coding for the information needed for CFN handling has been refined.

Clauses affected:	8.5.17.2, 8.5.17.4 (new), 10.3.6.17, 10.3.6.18, 10.3.6.19, 11.3.6

Other specs affected:	Other 3G core specifications		→ List of CRs:	
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

help.doc

<---------- double-click here for help and instructions on how to create a CR.

## 8.5.17	CFN calculation

### 8.5.17.1	Initialisation in CELL_DCH state on transiting from CELL_FACH state

When the UE changes from CELL_FACH state to CELL_DCH state CFN shall be calculated according to the following formula:

- for FDD:

    CFN = ((SFN*38400 - DOFF*512) div 38400) mod 256

- for TDD:

    CFN = (SFN - DOFF) mod 256

### 8.5.17.2	Initialisation in CELL_DCH state at hard handover

When the UE is in CELL_DCH state and receives any of the messages causing the UE to perform a hard handover, the UE shall check the IE "Timing indication" in that message.

- if IE "Timing indication" has the value "initialise" (i.e. non-synchronised hard handover),

  - if IE "CFN-targetSFN frame offset is not included the UE shall

    - read SFN on target cell and the CFN shall be calculated according to the following formula:

      - for FDD:

        - CFN = ((SFN*38400 - DOFF*512) div 38400) mod 256;

      - for TDD:

        - CFN = (SFN - DOFF) mod 256;

- if IE "CFN-targetSFN frame offset" is included in the message causing the UE to perform a non-synchronised hard handover, CFN shall be calculated according to the following formula:

  - for FDD:

    - CFNnew = (CFNold*38400+COFF*38400 -DOFF*512) div 38400) mod 256

  - for TDD:

    - CFNnew = (CFNold+COFF - DOFF) mod 256

    - where COFF is the value of "CFN-targetSFN frame offset".

  - if IE "CFN-targetSFN frame offset" is not included the UE shall read SFN on target cell.

NOTE:	CFN-targetSFN frame offset = (TargetSFN-CFN)mod256

- if IE "Timing indication" has the value "maintain" (i.e. synchronised hard handover), the UE shall keep CFN with no change due to the hard handover, and only increase CFN (mod 256) by 1 every frame.

### 8.5.17.3	Initialisation for CELL_FACH

When the UE performs cell selection, re-selection or changes to CELL_FACH state the UE shall set CFN for all common or shared channels according to:

- CFN = SFN mod 256

After the initialisation, the CFN in the UE is increased (mod 256) by 1 every frame.

8.5.17.4 Initialisation after intersystem handover to UTRAN

Initialisation for CELL_DCH state after intersystem handover:

- read SFN on target cell and the CFN shall be calculated according to the following formula:

  - for FDD:

      CFN = ((SFN*38400 - DOFF*512) div 38400) mod 256

  - for TDD:

      CFN = (SFN - DOFF) mod 256

10.3.6.17 Downlink DPCH info common for all RL

Information Element/Group name	Need	Multi	Type and reference	Semantics description
~~CHOICE *mode*~~				
~~>FDD~~				
~~>>Timing Indication~~	MP		Enumerated(Initialise, Maintain)	
~~>>CFN-targetSFN frame offset~~	~~OP~~CV TimInd		Integer(0..25 5)	In frame
CHOICE *mode*				
>FDD				
>>Downlink DPCH power control information	OP		Downlink DPCH power control information 10.3.6.22	
>>Downlink rate matching restriction information	OP		Downlink rate matching restriction information 10.3.6.30	If this IE is set to "absent", no Transport CH is restricted in TFI.
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	
>>Fixed or Flexible Position	MP		Enumerated (Fixed, Flexible)	
>>TFCI existence	MP		Boolean	TRUE indicates that TFCI exists
>>CHOICE *SF*	MP			
>>> SF = 256				
>>>> Number of bits for Pilot bits	MP		Integer (2,4,8)	In bits
>>> SF = 128				
>>>>Number of bits for Pilot bits	MP		Integer(4,8)	In bits
>>> Otherwise				(no data)
>TDD				
>>Common timeslot info	MD		Common Timeslot Info 10.3.6.9	Default is the current Common timeslot info

CHOICE *SF*	Condition under which the given *SF* is chosen
SF=128	"Spreading factor" is set to 128
SF=256	"Spreading factor" is set to 256
Otherwise	"Spreading factor" is set to a value distinct from 128 and 256

Condition	Explaination
TimInd	This IE is OPTIONAL if the IE "Timing Indication" is set to "Initialise". Otherwise it is absent.

10.3.6.18 Downlink DPCH info common for all RL Post

NOTE: Only for FDD

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Timing Indication	MP		Enumerated(Initialise, Maintain)	
CFN-targetSFN frame offset	OP		Integer(0..25 5)	In frame
Downlink DPCH power control information	OP		Downlink DPCH power control information 10.3.6.22	

10.3.6.19 Downlink DPCH info common for all RL Pre

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *mode*	MP			
>FDD				
>>Timing Indication	MP		Enumerated(Initialise, Maintain)	
>>CFN-targetSFN frame offset	OP		Integer(0..25 5)	In frame
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256, 512)	Defined in CHOICE SF512-Andpilot with "number of its for pilot bits" in ASN.1
>>Fixed or Flexible Position	MP		Enumerated (Fixed, Flexible)	
>>TFCI existence	MP		Boolean	TRUE indicates that TFCI exists
>>CHOICE *SF*	MP			
>>> SF = 256				
>>>> Number of bits for Pilot bits	MP		Integer (2,4,8)	In bits
>>> SF = 128				
>>>>Number of bits for Pilot bits	MP		Integer(4,8)	In bits
>>> Otherwise				(no data)
>TDD				
>>Common timeslot info	MP		Common Timeslot Info 10.3.6.9	

CHOICE *SF*	Condition under which the given *SF* is chosen
SF=128	"Spreading factor" is set to 128
SF=256	"Spreading factor" is set to 256
Otherwise	"Spreading factor" is set to a value distinct from 128 and 256

11.3.6 Physical channel information elements

```
PhysicalChannel-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN
...
DL-DPCH-InfoCommon ::=                 SEQUENCE {
    cfnHandling                         CHOICE {
        maintain                        NULL,
        initialise                      SEQUENCE {

        timingIndication                TimingIndication,
                    cfntargetsfnframeoffset       Cfntargetsfnframeoffset       OPTIONAL,
        }
    },
    modeSpecificInfo                    CHOICE {
        fdd                             SEQUENCE {
            dl-DPCH-PowerControlInfo        DL-DPCH-PowerControlInfo        OPTIONAL,
            dl-rate-matching-restriction    Dl-rate-matching-restriction   OPTIONAL,
            spreadingFactorAndPilot         SF512-AndPilot,
    -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            positionFixedOrFlexible         PositionFixedOrFlexible,
            tfci-Existence                  BOOLEAN
        },
        tdd                             SEQUENCE {
            commonTimeslotInfo              CommonTimeslotInfo             OPTIONAL
        }
    }
}


DL-DPCH-InfoCommonPost ::=             SEQUENCE {
    timingIndication                    TimingIndication,
    cfntargetsfnframeoffset             Cfntargetsfnframeoffset           OPTIONAL,
    dl-DPCH-PowerControlInfo            DL-DPCH-PowerControlInfo          OPTIONAL
}


DL-DPCH-InfoCommonPredef ::=           SEQUENCE {
    timingIndication                    TimingIndication,
    cfntargetsfnframeoffset             Cfntargetsfnframeoffset           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                             SEQUENCE {
            spreadingFactorAndPilot         SF512-AndPilot,
    -- TABULAR: The number of pilot bits is nested inside the spreading factor.
            positionFixedOrFlexible         PositionFixedOrFlexible,
            tfci-Existence                  BOOLEAN
        },
        tdd                             SEQUENCE {
            commonTimeslotInfo              CommonTimeslotInfo
        }
    }
}


...

TimingIndication ::=                   ENUMERATED{
                                        initialize, maintain}
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331	CR	**546r1**	Current Version:	**3.4.1**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	**TSG-RAN #10**	for approval	**X**		strategic		*(for SMG*
list expected approval meeting # here ↑		for information			non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2		**Date:**	11/10/2000

Subject:	UE Radio Access Capability Corrections

Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	It shall be possible to send capability information for all supported RATs and modes within one message (in RRC CONNECTION SETUP COMPLETE or UE CAPABILITY INFORMATION).
	It shall be possible for the UTRAN to request update of the UE capability information only for a specific mode (FDD or TDD).
	The IE "Maximum number of simultaneous CCTrCH" is moved to the transport channel capabilities.
	Some small corrections are made to align the IEs to the descriptions in TR 25.926 (v3.2.0)
	Small changes to namings of measurement capabilities (requirement for CM) are proposed since current namings might give the impression that the UE is making measurements on the uplink.

Clauses affected:	8.1.3.4, 10.2.41, 10.2.42, 10.2.49.8.14, 10.2.57, 10.3.3.2, 10.3.3.20, 10.3.3.25, 10.3.3.32, 10.3.3.38, 10.3.3.40, 11.2, 11.3.3

Other specs affected:	Other 3G core specifications		→ List of CRs:	
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.1.3.4 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" in the most recent RRC CONNECTION REQUEST message sent by the UE.

If the values are different, the UE shall:

- ignore the rest of the message;

If the values are identical, the UE shall:

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

.- store the value of the IE "New U-RNTI";

- initiate the signalling link parameters according to the IE "RB mapping info";

- if neither the IE "PRACH info (for RACH)",nor the IE "Uplink DPCH info" is included:

   - let the physical channel of type PRACH that is given in system information to be the default in uplink to which the RACH is mapped to;

- if neither the IE "Secondary CCPCH info", nor the IE "Downlink DPCH info" is included:

   - start to receive the physical channel of type Secondary CCPCH that is given in system information to be used as default by FACH;

- enter a state according to subclause 8.5.7;

- transmit an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH after successful state transition per subclause 8.5.7, with the contents set as specified below:

   - include START [3G TS 33.102] values to be used in ciphering and integrity protection for each CN domain;

- if the IE " UE radio access FDD capability update requirement" included in ~~requested in the IE "Capability update requirement" sent in~~ the RRC CONNECTION SETUP message has the value TRUE:

      include its UTRAN-specific FDD capabilities and its UTRAN –specific capabilities common to FDD and TDD in the IE "UE radio access capability";

- if the IE " UE radio access TDD capability update requirement" included in the RRC CONNECTION SETUP message has the value TRUE:

      include its UTRAN-specific TDD capabilities and its UTRAN –specific capabilities common to FDD and TDD in the IE "UE radio access capability";

- if ~~requested in~~ the IE "System specific capability update requirement list~~Capability update requirement~~" ~~sent~~is present in the RRC CONNECTION SETUP message:

   - include its inter-system capabilities for the requested systems in the IE "UE system specific capability".

When the successful delivery of the RRC CONNECTION SETUP COMPLETE message has been confirmed by RLC the UE shall:

- update its variable UE_CAPABILITY_TRANSFERRED which UE capabilities it has transmitted to the UTRAN;

- set the "Status" in the variable INTEGRITY_ PROTECTION_INFO to "Not started";

and the procedure ends.

10.2.41 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Initial UE identity	MP		Initial UE identity 10.3.3.13	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	MP		U-RNTI 10.3.3.45	
New C-RNTI	OP		C-RNTI 10.3.3.8	
UTRAN DRX cycle length coefficient	MP		UTRAN DRX cycle length coefficient 10.3.3.47	
Capability update requirement	MD		Capability update requirement 10.3.3.2	Default value is defined in subclause 10.3.3.~~2~~3
RB Information Elements				
Signalling RB information to setup list	MP	3 to 4		Information for signalling radio bearers, in the order RB 1 up to 4.
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Added or Reconfigured TrCH information list	MP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.5.6	
Added or Reconfigured TrCH information list	MP	1 to \<maxTrCH\>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.35	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.38	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			At least one spare choice (criticality = reject) required
>Uplink DPCH info			Uplink DPCH info 10.3.6.86	
>PRACH Info (for RACH)			PRACH Info (for RACH) 10.3.6.51	
>CPCH SET Info			CPCH SET Info 10.3.6.12	
Downlink radio resources				
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.23	
Downlink information per radio link list	OP	1 to \<MaxRL\>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.26	

10.2.42 RRC CONNECTION SETUP COMPLETE

This message confirms the establishment of the RRC Connection by the UE.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
START list	MP	1 to <maxCNdomains>		START [TS 33.102] values for all CN domains.
>CN domain identity	MP		CN domain identity 10.3.1.1	
>START	MP		START 10.3.3.36	START value to be used in this CN domain.
UE information elements				
UE radio access capability	OP		UE radio access capability 10.3.3.40	
UE system specific capability	OP	1 to <maxSystemCapability>		
>Inter-system messageUE system specific capability	OPMP		Inter-system message 10.3.8.6	

10.2.49.8.14 System Information Block type 13

The system information block type 13 contains ANSI-41 system information.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Other information elements				
References to other system information blocks	OP		References to other system information blocks 10.3.8.11	Only system information blocks with area scope "Cell" and update mechanism "value tag" may be referenced.
CN Information Elements				
CN Domain system information list		1 to \<maxCNdomains>		Send CN information for each CN domain.
>CN Domain system information			CN Domain system information 10.3.1.2	
UE Information				
UE timers and constants in idle mode	OP		UE timers and constants in idle mode 10.3.3.43	
Capability update requirement	MD~~OP~~		Capability update requirement 10.3.3.2	Default value is defined in subclause 10.3.3.2

10.2.57 UE CAPABILITY INFORMATION

This message is sent by UE to convey UE specific capability information to the UTRAN.

  RLC-SAP: AM or UM

  Logical channel: DCCH

  Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE information elements				
Integrity check info	CH		Integrity check info 10.3.3.14	Integrity check info is included if integrity protection is applied
UE radio access capability	OP		UE radio access capability 10.3.3.40	
Other information elements				
UE system specific capability	OP	1 to <maxSystemCapability>		
>Inter-system messageUE system specific capability	OPMP		Inter-system message 10.3.8.6	Includes inter-system classmark

10.3.3.2 Capability Update Requirement

This IE indicates to the UE which specific capabilities to transfer to the network.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE radio access FDD capability update requirement	MP		Boolean	TRUE indicates update required
UE radio access TDD capability update requirement	MP		Boolean	TRUE indicates update required
System specific capability update requirement list	OP	1 to \<maxSystemCapability>		
>System specific capability update requirement	MP		Enumerated (GSM)	At least 15 spare values Criticality: reject are needed

Default value is:

"UE radio capability FDD update requirement" = false

"UE radio capability TDD update requirement" = false

"System specific capability update requirement" not present.

10.3.3.20　　Measurement capability

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Need for downlink compressed mode				
FDD measurements DL	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on FDD
TDD measurements DL	CV *tdd_sup*		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on TDD
GSM measurements DL	CV *gsm_sup*			
> GSM 900 DL	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on GSM 900
> DCS 1800 DL	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on DCS 1800
> GSM 1900 DL	MP		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on GSM 1900
Multi-carrier measurement DL	CV *mc_sup*		Boolean	TRUE means that the UE requires DL compressed mode in order to perform measurements on multi-carrier
Need for uplink compressed mode				
FDD measurements UL	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on FDD
TDD measurements UL	CV *tdd_sup*		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on TDD
GSM measurements UL	CV *gsm_sup*			
> GSM 900 UL	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on GSM 900
> DCS 1800 UL	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on DCS 1800
> GSM 1900 UL	MP		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on GSM 1900
Multi-carrier measurement UL	CV *mc_sup*		Boolean	TRUE means that the UE requires UL compressed mode in order to perform measurements on multi-carrier

Condition	Explanation
tdd_sup	Presence is mandatory if IE Multi-mode capability has the value "TDD" or "FDD/TDD"= TDD. Otherwise this field is not needed in the message.
gsm_sup	Presence is mandatory if IE Support of GSM has the value TRUE.Multi-RAT capability = GSM. Otherwise this field is not needed in the message.
mc_sup	Presence is mandatory if IE Support of multi-carrier has the value TRUE.Multi-RAT capability = multi-carrier. Otherwise this field is not needed in the message.

10.3.3.25 Physical channel capability

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Downlink physical channel capability information elements				
CHOICE *mode*	MP			
>FDD				
FDD downlink physical channel capability	CH-*fdd_req_sup*			
>>Maximum number of simultaneous CCTrCH	MP		Integer (1..8)	
>> Max no DPCH/PDSCH codes	MP		Integer (1..8)	Maximum number of DPCH/PDSCH codes to be simultaneously received
>> Max no physical channel bits received	MP		Integer (600, 1200, 2400, 3600, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 48000, 57600, 67200, 76800)	Maximum number of physical channel bits received in any 10 ms interval (DPCH, PDSCH, S-CCPCH) At least 1 spare values needed
>>Support for SF 512	MP		Boolean	TRUE means supported
>>Support of PDSCH	MP		Boolean	TRUE means supported
>>Simultaneous reception of SCCPCH and DPCH	MP		Boolean	TRUE means supported
>>Simultaneous reception of SCCPCH, DPCH and PDSCH	CV-*if_sim_rec_pdsch_sup*		Boolean	TRUE means supported
>>Max no of S-CCPCH RL	CV-*if_sim_rec*		Integer(1)	Maximum number of simultaneous S-CCPCH radio links At least 7 spare values needed.
>TDD downlink physical channel capability	CH-*tdd_req_sup*			
>>Maximum number of simultaneous CCTrCH	MP		Integer (1..8)	
>>Maximum number of timeslots per frame	MP		Integer (1..14)	At least 2 spare values needed.
>>Maximum number of physical channels per frame	MP		Integer (1..224)	At least 32 spare values needed
>>Minimum SF	MP		Integer (1, 16)	
>>Support of PDSCH	MP		Boolean	TRUE means supported
>>Maximum number of physical channels per timeslot	MP		Integer (1..16)	
Uplink physical channel capability information elements				
CHOICE *mode*	MP			
>FDD uplink physical channel capability	CH-*fdd_req_sup*			
>>Maximum number of DPDCH bits transmitted per 10 ms	MP		Integer (600, 1200, 2400, 4800. 9600, 19200.	At least 6 spare values needed

			28800, 38400, 48000, 57600)	
>>Support of PCPCH	MP		Boolean	TRUE means supported
>TDD uplink physical channel capability	CH-tdd_req_sup			
>>Maximum number of simultaneous CCTrCH	MP		Integer (1..8)	
>>Maximum Number of timeslots per frame	MP		Integer (1..14)	At least 2 spare values needed
>>Maximum number of physical channels per timeslot	MP		Integer (1, 2)	
>>Minimum SF	MP		Integer (1, 2, 4, 8, 16)	At least 3 spare values needed
>>Support of PUSCH	MP		Boolean	TRUE means supported

Condition	Explanation
if_sim_rec_pdsch_sup	Presence is mandatory if IE Simultaneous reception of SCCPCH and DPCH = True and IE Support of PDSCH = True. Otherwise this field is not needed in the message.
if_sim_rec	Presence is mandatory if IE capability Simultaneous reception of SCCPCH and DPCH = True. Otherwise this field is not needed in the message.
tdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "TDD" or "FDD/TDD" and a TDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.
fdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "FDD" or "FDD/TDD" and a FDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.

10.3.3.32　　RF capability

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
CHOICE mode	MP			
>FDD RF capability	CH-fdd_req_sup			
>>UE power class	MP		Enumerated(1..4)	as defined in 25.101 subclause 6.2.1
>>Tx/Rx frequency separation	MP		Enumerated(190, 174.8-205.2, 134.8-245.2)	In MHz as defined in 25.101 subclause 5.3. NOTE: Not applicable if UE is not operating in frequency band a (as defined in 25.101). At least 1 spare value needed
>TDD RF capability	CH-tdd_req_sup			
>>UE power class	MP		Enumerated (1..4)	as defined in 25.102 subclause 6.2.1
>>Radio frequency bands	MP	1 to <maxFrequencybands>	Enumerated(a, b, c, a+b, a+c, b+c, a+b+c)	as defined in 25.102 subclause 5.2 At least 1 spare value needed
>>Chip rate capability	MP		Enumerated(3.84Mcps,1.28Mcps)	as defined in 25.102

Condition	Explanation
tdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "TDD" or "FDD/TDD" and a TDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.
fdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "FDD" or "FDD/TDD" and a FDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.

10.3.3.38 Transport channel capability

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Downlink transport channel capability information elements				
Max no of bits received	MP		Integer(640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	Maximum sum of number of bits of all transport blocks received at an arbitrary time instant.in TTIs that end within the same arbitrary interval of length T<10 ms At least 3 spare values are needed.
Max convolutionally coded bits received	MP		Integer(640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	Maximum sum of number of bits of all convolutionally coded transport blocks received at an arbitrary time instant.in TTIs that end within the same arbitrary interval of length T<10 ms At least 3 spare values are needed
Max turbo coded bits received	CV *turbo_dec_sup*		Integer(640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	Maximum sum of number of bits of all turbo coded transport blocks received at an arbitrary time instant.in TTIs that end within the same arbitrary interval of length T<10 ms At least 3 spare values are needed
Maximum number of simultaneous transport channels	MP		Integer(4, 8, 16, 32)	
Maximum number of simultaneous CCTrCH	MP		Integer (1..8)	
Max no of received transport blocks	MP		Integer(4, 8, 16, 32, 48, 64, 96, 128, 256, 512)	Maximum total number of transport blocks received within TTIs that end at within the same 10ms interval At least 6 spare values needed
Maximum number of TFC in the TFCS	MP		Integer(16, 32, 48, 64, 96, 128, 256, 512, 1024)	At least 7 spare values needed
Maximum number of TF	MP		Integer(32, 64, 128, 256, 512, 1024)	At least 2 spare values needed
Support for turbo decoding	MP		Boolean	TRUE means supported
Uplink transport channel capability information elements				
Max no of bits transmitted	MP		Integer(640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	Maximum sum of number of bits of all transport blocks transmitted at an arbitrary time instant.in TTIs that start at the same time At least 3 spare values needed
Max convolutionally coded bits transmitted	MP		Integer(640, 1280, 2560,	Maximum sum of number of bits of all convolutionally

			3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	coded transport blocks transmitted at an arbitrary time instant.~~in TTIs that start at the same time~~ At least 3 spare values needed
Max turbo coded bits transmitted	CV *turbo_enc_ sup*		Integer(640, 1280, 2560, 3840, 5120, 6400, 7680, 8960, 10240, 20480, 40960, 81920, 163840)	Maximum sum of number of bits of all turbo coded transport blocks transmitted at an arbitrary time instant.~~in TTIs that start at the same time~~ At least 3 spare values needed
Maximum number of simultaneous transport channels	MP		Integer(2, 4, 8, 16, 32)	At least 3 spare values needed
Maximum number of simultaneous CCTrCH of DCH type	CH-*tdd_req_su p*		Integer (1..8)	
Max no of transmitted transport blocks	MP		Integer(2, 4, 8, 16, 32, 48, 64, 96, 128, 256, 512)	Maximum total number of transport blocks transmitted within TTIs that start at the same time At least 5 spare values needed
Maximum number of TFC in the TFCS	MP		Integer(4, 8, 16, 32, 48, 64, 96, 128, 256, 512, 1024)	At least 5 spare values needed
Maximum number of TF	MP		Integer(32, 64, 128, 256, 512, 1024)	At least 2 spare values needed
Support for turbo encoding	MP		Boolean	TRUE means supported

Condition	Explanation
turbo_dec_sup	Presence is mandatory if IE Support of turbo decoding = True. Otherwise this field is not needed in the message.
turbo_enc_sup	Presence is mandatory if IE Support of turbo encoding = True. Otherwise this field is not needed in the message.
tdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "TDD" or "FDD/TDD" and a TDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.

10.3.3.40 UE radio access capability

Information Element/Group name	Need	Multi	Type and reference	Semantics description
ICS version	MP		Enumerated(R99)	Indicates the release version of TS 34.123-2 (Implementation Conformance Statement (ICS) proforma specification) that is applicable for the UE.. At least 7 spare values needed
PDCP capability	MP		PDCP capability 10.3.3.24	
RLC capability	MP		RLC capability 10.3.3.33	
Transport channel capability	MP		Transport channel capability 10.3.3.38	
RF capability	MP		RF capability 10.3.3.32	
Physical channel capability	MP		Physical channel capability 10.3.3.25	
UE multi-mode/multi-RAT capability	MP		UE multi-mode/multi-RAT capability 10.3.3.39	
Security capability	MP		Security capability 10.3.3.35	
LCS capability	MP		LCS capability 10.3.3.18	
~~CHOICE *mode*~~	~~MP~~			
~~>FDD~~				
~~>>Measurement capability~~	~~MP~~CH-*fdd_req_sup*		Measurement capability 10.3.3.20	
~~>TDD~~				~~(no data)~~

Condition	Explanation
fdd_req_sup	Presence is mandatory if IE Multi-mode capability has the value "FDD" or "FDD/TDD" and a FDD capability update has been requested in a previous message. Otherwise this field is not needed in the message.

11.2 PDU definitions

```
--*****************************************************************
--
-- TABULAR: The message type and integrity check info are not
-- visible in this module as they are defined in the class module.
-- Also, all FDD/TDD specific choices have the FDD option first
-- and TDD second, just for consistency.
--
--*****************************************************************

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

--*****************************************************************
--
-- IE parameter types from other modules
--
--*****************************************************************

IMPORTS

....

    maxSIBperMsg,
    maxSystemCapability
FROM Constant-definitions;

....

-- **************************************************
--
-- RRC CONNECTION SETUP COMPLETE
--
-- **************************************************

RRCConnectionSetupComplete ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    -- User equipment IEs
        startList                       STARTList,
        ue-RadioAccessCapability        UE-RadioAccessCapability        OPTIONAL,
        ue-SystemSpecificCapability     SEQUENCE (SIZE (1..maxSystemCapability) OF
                                            InterSystemMessage          OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}

....

-- **************************************************
--
-- UE CAPABILITY INFORMATION
--
-- **************************************************

UECapabilityInformation ::= SEQUENCE {
    -- User equipment IEs
        ue-RadioAccessCapability        UE-RadioAccessCapability        OPTIONAL,
    -- Other IEs
        ue-SystemSpecificCapability     SEQUENCE (SIZE (1..maxSystemCapability) OF
                                            InterSystemMessage          OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}

....

END
```

11.3.3　User equipment information elements

```
UserEquipment-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

....

DL-PhysChCapabilityFDD ::=          SEQUENCE {
    maxSimultaneousCCTrCH-Count         MaxSimultaneousCCTrCH-Count,
    maxNoDPCH-PDSCH-Codes               INTEGER (1..8),
    maxNoPhysChBitsReceived             MaxNoPhysChBitsReceived,
    supportForSF-512                    BOOLEAN,
    supportOfPDSCH                      BOOLEAN,
    simultaneousSCCPCH-DPCH-Reception   SimultaneousSCCPCH-DPCH-Reception
}

DL-PhysChCapabilityTDD ::=          SEQUENCE {
    maxSimultaneousCCTrCH-Count         MaxSimultaneousCCTrCH-Count,
    maxTS-PerFrame                      MaxTS-PerFrame,
    maxPhysChPerFrame                   MaxPhysChPerFrame,
    minimumSF                           MinimumSF-DL,
    supportOfPDSCH                      BOOLEAN,
    maxPhysChPerTS                      MaxPhysChPerTS
}

DL-TransChCapability ::=            SEQUENCE {
    maxNoBitsReceived                   MaxNoBits,
    maxConvCodeBitsReceived             MaxNoBits,
    turboDecodingSupport                TurboSupport,
    maxSimultaneousTransChs             MaxSimultaneousTransChsDL,
    maxSimultaneousCCTrCH-Count         MaxSimultaneousCCTrCH-Count,
    maxReceivedTransportBlocks          MaxTransportBlocksDL,
    maxNumberOfTFC-InTFCS               MaxNumberOfTFC-InTFCS-DL,
    maxNumberOfTF                       MaxNumberOfTF
}

....

PhysicalChannelCapability ::=       SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fddPhysChCapability                             SEQUENCE {
            downlinkPhysChCapability        DL-PhysChCapabilityFDD,
            uplinkPhysChCapability          UL-PhysChCapabilityFDD
        }                                                       OPTIONAL,
        tddPhysChCapability                             SEQUENCE {
            downlinkPhysChCapability        DL-PhysChCapabilityTDD,
            uplinkPhysChCapability          UL-PhysChCapabilityTDD
        }                                                       OPTIONAL
    }
}

....

RadioFrequencyBands ::=             ENUMERATED {
                                    a, b, c, ab, ac, bc, abc,
                                    spare1 }

RadioFrequencyBandList ::=          SEQUENCE (SIZE (1..maxFrequencybands)) OF
                                    RadioFrequencyBand

....

RF-Capability ::=                   SEQUENCE {
    modeSpecificInfo                    CHOICE {
        fddRF-Capability                                SEQUENCE {
            ue-PowerClass                   UE-PowerClass,
            txRxFrequencySeparation         TxRxFrequencySeparation
        }                                                       OPTIONAL,
        tddRF-Capability                                SEQUENCE {
            ue-PowerClass                   UE-PowerClass,
            radioFrequencyBandsList         RadioFrequencyBandsList,
            chipRateCapability              ChipRateCapability
        }                                                       OPTIONAL
    }
}
```

```
....

UE-RadioAccessCapability ::=            SEQUENCE {
    ics-Version                             ICS-Version,
    pdcp-Capability                         PDCP-Capability,
    rlc-Capability                          RLC-Capability,
    transportChannelCapability              TransportChannelCapability,
    rf-Capability                           RF-Capability,
    physicalChannelCapability               PhysicalChannelCapability,
    ue-MultiModeRAT-Capability              UE-MultiModeRAT-Capability,
    securityCapability                      SecurityCapability,
    lcs-Capability                          LCS-Capability,
    modeSpecificInfo                        CHOICE {
        fdd                                     SEQUENCE {
            measurementCapability                   MeasurementCapability        OPTIONAL
        },
        tdd                                     NULL
    }
}

UL-PhysChCapabilityFDD ::=              SEQUENCE {
    maxNoDPDCH-BitsTransmitted              MaxNoDPDCH-BitsTransmitted,
    supportOfPCPCH                          BOOLEAN
}

UL-PhysChCapabilityTDD ::=              SEQUENCE {
    maxSimultaneousCCTrCH-Count             MaxSimultaneousCCTrCH-Count,
    maxTS-PerFrame                          MaxTS-PerFrame,
    maxPhysChPerTimeslot                    MaxPhysChPerTimeslot,
    minimumSF                               MinimumSF-UL,
    supportOfPUSCH                          BOOLEAN
}

UL-TransChCapability ::=                SEQUENCE {
    maxNoBitsTransmitted                    MaxNoBits,
    maxConvCodeBitsTransmitted              MaxNoBits,
    turboDecodingSupport                    TurboSupport,
    maxSimultaneousTransChs                 MaxSimultaneousTransChsUL,
    modeSpecificInfo                        CHOICE {
        fdd                                     NULL,
        tdd                                     SEQUENCE {
            maxSimultaneousCCTrCH-Count             MaxSimultaneousCCTrCH-Count,
        }
    }
    maxTransmittedBlocks                    MaxTransportBlocksUL,
    maxNumberOfTFC-InTFCS                   MaxNumberOfTFC-InTFCS-UL,
    maxNumberOfTF                           MaxNumberOfTF
}

....

END
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331	CR	548r1	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: **TSG-RAN #10**   for approval **X**   strategic ☐ *(for SMG*
list expected approval meeting # here   for information ☐   non-strategic ☐ *use only)*
↑

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:**   2000-11-09

Subject: RRC establishment and paging causes for NAS signalling

Work item:

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
                 A   Corresponds to a correction in an earlier release   ☐   Release 96   ☐
(only one category   B   Addition of feature   ☐   Release 97   ☐
shall be marked   C   Functional modification of feature   ☐   Release 98   ☐
with an X)   D   Editorial modification   ☐   Release 99   **X**
                                                                                               Release 00   ☐

Reason for change:

Currently, there are a few establishment causes in the RRC CONNECTION REQUEST message that is to be used, the request for RRC connection is triggered by a service that will not establish any RAB (that is, only direct transfer will by used for the data transmission).

The current establishment causes related to this are:

- Registration
- Detach
- SMS

However, in case a service that would need the "high priority" (or "SAPI 0") signalling radio bearer RB#3, such as USSD (Unstructured Supplementary Services Data), which cause value to use is not clear.

To use the value "SMS" is not appropriate since SMS uses "low priority" (or "SAPI 3") needing signalling radio bearer RB#4, which is not the case for USSD.

To give a hint to UTRAN how and whether RB#3 and RB#4 should be configured, it is proposed to replace the "SMS" establishment cause with the following two:

- High Priority Signalling
- Low Priority Signalling

Since there now is a reference from TS 24.008 to 25.331 regarding which establishment cause to give to RRC, it is proposed to remove the note "These causes shall be aligned with causes received from higher layers".

The corresponding changes are made to the paging cause as well.

Clauses affected: 10.3.3.11, 10.3.3.22, 11.3.3

Other specs   Other 3G core specifications   ☐ → List of CRs:

affected:	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

| **Other comments:** | Changes relative to CR 548 are highlighted with yellow. |

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<-------- double-click here for help and instructions on how to create a CR.

10.3.3.11   Establishment cause

Cause for an RRC connection establishment request.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Establishment cause	MP		Enumerated(Originating Conversational Call, Originating Streaming Call, Originating Interactive Call, Originating Background Call, Originating Subscribed traffic Call, Terminating Conversational Call, Terminating Streaming Call, Terminating Interactive Call, Terminating Background Call, Emergency Call, Inter-system cell re-selection, Registration, Detach, High Priority Signalling, Low Priority Signalling SMS), Call re-establishment)	At least 1~~6~~7 spare values, Criticality: reject, are needed

NOTE: ~~These causes shall be aligned with causes received from higher layers.~~

10.3.3.22   Paging cause

Cause for a CN originated page.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Paging cause	MP		Enumerated(Terminating Conversational Call, Terminating Streaming Call, Terminating Interactive Call, Terminating Background Call, High Priority Signalling, Low Priority SignallingSMS)	At least 3 spare values, Criticality: reject, are needed

NOTE: These causes shall be aligned with causes received from higher layers.

11.3.3   User equipment information elements

```
EstablishmentCause ::=              ENUMERATED {
                                    originatingConversationalCall,
                                    originatingStreamingCall,
                                    originatingInteractiveCall,
                                    originatingBackgroundCall,
                                    originatingSubscribedTrafficCall,
                                    terminatingConversationalCall,
                                    terminatingStreamingCall,
                                    terminatingInteractiveCall,
                                    terminatingBackgroundCall,
                                    emergencyCall,
                                    interSystemCellReselection,
                                    registration,
                                    detach,
                                    highPrioritySignalling,
                                    lowPrioritySignallingsms,
                                    callRe-establishment,
                                    spare1, spare2, spare3, spare4,
                                    spare5, spare6, spare7, spare8,
                                    spare9, spare10, spare11, spare12,
                                    spare13, spare14, spare15, spare16,
                                    spare17 }
```

```
PagingCause ::=                     ENUMERATED {
                                    terminatingConversationalCall,
                                    terminatingStreamingCall,
                                    terminatingInteractiveCall,
                                    terminatingBackgroundCall,
                                    highPrioritySignalling,
                                    lowPrioritySignallingsms,
                                    spare1, spare2, spare3, spare4,
                                    spare5, spare6, spare7, spare8,
                                    spare9, spare10 }
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

	25.331	CR	**549**		Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   ↑ *CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	**X**	strategic		(for SMG
list expected approval meeting # here ↑		for information		non-strategic		*Use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	2000-10-06

Subject:	Corrections to Intra-frequency measurements and Traffic volume measurements

Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	Change Report criteria in IE "Intra-frequency measurement" from MP to OP
	In the current specification the report criteria for intra-frequency measurements is included as a mandatory CHOICE in the message MEASUREMENT CONTROL. Since the report criteria is mandatory, it has to be repeated every time a MEASUREMENT CONTROL message is sent to the UE (even if it has already been defined in SIB 11/12 or in a previously transmitted MEASUREMENT CONTROL message).
	In this CR it is proposed to include the report criteria as an optional CHOICE in the MEASUREMET CONTROL message. If the field is not present, the UE shall use the information transmitted in a previous message or in SIB 11/12.
	Define Time to trigger and Pending time after trigger separately for event 4a and 4b
	In the current specification it is not possible to specify separate trigger conditions for the different traffic volume events (a difference compared to e.g. the intra-frequency measurements where the trigger conditions are specified per event).
	To correct this error it is proposed to include the IEs "Time to trigger" and "Time after trigger" into the loop for event specific parameters.
	Clarification to chapter 14.1.5.4, "Forbid a Primary CPICH to affect the reporting range"
	When all cells in the active set are defined as "Primary CPICH forbidden to affect the reporting range", the UE is not able to send any intra-frequency measurement reports and the active set could not be updated. This is a possible dead lock situation for the soft/softer handover function.
	To solve the problem it is proposed to include the following statement into chapter 14.1.5.4:
	"The UE shall ignore that a Primary CPICH is forbidden to affect the reporting range if all of

the following conditions are fulfilled:

- The Primary CPICH is included in active set

- All cells in active set are defined as Primary CPICHs forbidden to affect the reporting range."

Clauses affected: 8.4.1.8, 8.4.1.9, 10.3.7.36, 10.3.7.97, 11.3.7, 14.1.5.4

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.4.1.8   Measurements after transition from CELL_FACH to CELL_DCH state

The UE shall obey the follow rules for different measurement types after transiting from CELL_FACH to CELL_DCH state:

Intra-frequency measurement

If the UE has previously in CELL_DCH state stored an intra-frequency measurement, for which the IE "measurement validity" has been assigned to value "resume" and for which the IE "UE state for reporting" has been assigned to value "CELL_DCH", the UE shall resume this measurement and associated reporting. If the UE has performed cell reselection whilst out of CELL_DCH state, the UE shall not resume the measurement.

If the UE has no previously assigned measurement, it shall continue monitoring the list of neighbouring cells assigned in the "intra-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11"). If the "intra-frequency measurement reporting criteria" IE was included in "System Information Block 12" (or "System Information Block 11"), the UE shall send the MEASUREMENT REPORT message when reporting criteria are fulfilled. When the UE receives a MEASUREMENT CONTROL message including an intra-frequency measurement type assignment, the UE shall stop monitoring and measurement reporting for the list of neighbouring cells assigned in the "intra-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11"). If the report criteria is included in the MEASUREMENT CONTROL message, the UE shall replace~~It shall also delete~~ the measurement reporting criteria received in "System Information Block 12" (or "System Information Block 11") with the new information received in the MEASUREMENT CONTROL message.

Inter-frequency measurement

The UE shall stop monitoring the list of neighbouring cells assigned in the "inter-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11"). If the UE has previously stored an inter-frequency measurement, for which the IE "measurement validity" has been assigned to value "resume" and for which the IE "UE state for reporting" has been assigned to value "CELL_DCH", the UE shall resume this measurement and associated reporting.

Inter-system measurement

The UE shall stop monitoring the list of neighbouring cells assigned in the "inter-frequency system info" IE in "System Information Block 12" (or "System Information Block 11"). If the UE has previously stored an inter-system measurement, for which the IE "measurement validity" has been assigned to value "resume" and for which the IE "UE state for reporting" has been assigned to value "CELL_DCH", the UE shall resume this measurement and associated reporting.

Traffic volume measurement

The UE shall stop or continue traffic volume type measurement reporting assigned in a MEASUREMENT CONTROL message sent on the FACH according to the following rules:

- If the IE "measurement validity" for this measurement has been assigned to value "release", the UE shall delete the measurement associated with the variable MEASUREMENT IDENTITY.

- If the IE "measurement validity" for the measurement has been assigned to value "resume", and the IE "UE state for reporting" has been assigned to value "CELL_FACH", the UE shall stop measurement reporting and save the measurement associated with the variable MEASUREMENT IDENTITY to be used after the next transition to CELL_FACH state.

- If the IE "measurement validity" for the measurement has been assigned to value "resume", and the IE "UE state for reporting" has been assigned to value "all states", the UE shall continue measurement reporting.

If the UE has previously stored a measurement, for which the IE "measurement validity" has been assigned to value "resume" and for which the IE "UE state for reporting" has been assigned to value "CELL_DCH", the UE shall resume this measurement and associated reporting.

If no traffic volume type measurement has been assigned to the UE with a MEASUREMENT CONTROL message when transiting to CELL_DCH state, the UE shall continue an ongoing traffic volume type measurement, which was assigned in "System Information Block 12" (or "System Information Block 11")

Traffic volume type measurement control parameters assigned in a MEASUREMENT CONTROL message shall always supersede parameters conveyed in "System Information Block 12" (or "System Information Block 11"). If the UE receives a MEASUREMENT CONTROL message including an traffic volume measurement type assignment, the UE shall delete the traffic volume measurement control information received in "System Information Block 12" (or "System Information Block 11").

8.4.1.9 Measurements after transition from idle mode to CELL_DCH state

The UE shall obey the follow rules for different measurement types after transiting from idle mode to CELL_DCH state:

Intra-frequency measurement

The UE shall continue monitoring the list of neighbouring cells assigned in the "intra-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11"). If the "intra-frequency measurement reporting criteria" IE was included in "System Information Block 12" (or "System Information Block 11"), the UE shall send the MEASUREMENT REPORT message when reporting criteria are fulfilled.

When the UE receives a MEASUREMENT CONTROL message including an intra-frequency measurement type assignment, the UE shall stop monitoring and measurement reporting for the list of neighbouring cells assigned in the "intra-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11"). If the report criteria is included in the MEASUREMENT CONTROL message, the UE shall replace It shall also delete the measurement reporting criteria received in "System Information Block 12" (or "System Information Block 11") with the new information received in the MEASUREMENT CONTROL message.

Inter-frequency measurement

The UE shall stop monitoring the list of neighbouring cells assigned in the "inter-frequency cell info" IE in "System Information Block 12" (or "System Information Block 11").

Inter-system measurement

The UE shall stop monitoring the list of neighbouring cells assigned in the "inter-frequency system info" IE in "System Information Block 12" (or "System Information Block 11").

Traffic volume measurement

The UE shall begin a traffic volume type measurement, which was assigned in "System Information Block 12" (or "System Information Block 11").

10.3.7.36 Intra-frequency measurement

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Intra-frequency cell info list	OP		Intra-frequency cell info list 10.3.7.33	Measurement object Not included for measurement of detected set.
Intra-frequency measurement quantity	OP		Intra-frequency measurement quantity 10.3.7.38	
Intra-frequency reporting quantity	OP		Intra-frequency reporting quantity 10.3.7.41	
Reporting cell status	CV-*reporting*		Reporting cell status 10.3.7.86	
Measurement validity	OP		Measurement validity 10.3.7.76	
CHOICE report criteria	~~M~~OP			
>Intra-frequency measurement reporting criteria			Intra-frequency measurement reporting criteria 10.3.7.39	
>Periodical reporting criteria			Periodical reporting criteria 10.3.7.78	
>No reporting				(no data) Chosen when this measurement only is used as additional measurement to another measurement

Condition	Explanation
reporting	This IE is optional if the CHOICE "report criteria" is equal to "periodical reporting criteria" or "No reporting", otherwise the IE is not needed

10.3.7.97   Traffic volume measurement reporting criteria

Contains the measurement reporting criteria information for a traffic volume measurement.

Event 4a: RLC buffer payload exceeds an absolute threshold.

Event 4b: RLC buffer payload becomes smaller than an absolute threshold.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Parameters sent for each transport channel	OP	1 to <maxTrCH>		
>UL Transport Channel ID	OP		Transport channel identity 10.3.5.18	If the transport channel identity is not included, the measurement reporting criteria are applied to all transport channels.
>Parameters required for each Event	OP	1 to <maxMeas perEvent>		
>>Traffic volume event identity	MP		Traffic volume event identity 10.3.7.91	
>>Reporting Threshold	MP		Enumerated(8,16,32,64,1 28,256,512,1 024,2K,3K,4 K,6K,8K,12K ,16K,24K,32 K,48K,64K,9 6K,128K,192 K,256K,384 K,512K,768 K)	Threshold in bytes And N Kbytes = N*1024 bytes
>>Time to trigger	OP		Time to trigger 10.3.7.89	Indicates the period of time between the timing of event detection and the timing of sending Measurement Report. Time in ms
>>Pending time after trigger	OP		Integer(250, 500, 1000, 2000, 4000, 8000, 16000)	Time in seconds. Indicates the period of time during which it is forbidden to send any new measurement reports with the same Traffic volume event identitymeasurement ID even if the triggering condition is fulfilled again. Time in miliseconds
Tx interruption after trigger	OP		Integer (250, 500, 1000, 2000, 4000, 8000, 16000)	Time in miliseconds. Indicates whether or not the UE shall block DTCH transmissions on the RACH after a measurement report is triggered.
Amount of reporting	OP		Integer(1, 2, 4, 8, 16, 32, 64, Infinity)	Measurement is "released" after the indicated amount of reporting from the UE itself.

11.3.7   Measurement information elements

```
IntraFrequencyMeasurement ::=        SEQUENCE {
    intraFreqCellInfoList               IntraFreqCellInfoList        OPTIONAL,
    intraFreqMeasQuantity               IntraFreqMeasQuantity        OPTIONAL,
    intraFreqReportingQuantity          IntraFreqReportingQuantity   OPTIONAL,
    measurementValidity                 MeasurementValidity          OPTIONAL,
    reportCriteria                      IntraFreqReportCriteria      OPTIONAL
}


TrafficVolumeEventParam ::=          SEQUENCE {
    eventID                             TrafficVolumeEventType,
    reportingThreshold                  TrafficVolumeThreshold,
    timeToTrigger                       TimeToTrigger                OPTIONAL,
    pendingTimeAfterTrigger             PendingTimeAfterTrigger      OPTIONAL
}


TrafficVolumeReportingCriteria ::= SEQUENCE {
    transChCriteriaList                 TransChCriteriaList          OPTIONAL,
    timeToTrigger                       TimeToTrigger                OPTIONAL,
    pendingTimeAfterTrigger             PendingTimeAfterTrigger      OPTIONAL,
    tx-InterruptionAfterTrigger         TX-InterruptionAfterTrigger  OPTIONAL,
    reportingAmount                     ReportingAmount              OPTIONAL
}
```

14.1.5.4 Forbid a Primary CPICH to affect the reporting range (FDD only)

The reporting range affects the reporting events 1A and 1B presented above. The reporting range is defined as a function of all the Primary CPICHs in the active set (see 14.1.2.1 and 14.1.2.2). If the parameter W is set to 0, the reporting range is defined relative to the best Primary CPICH. However, there could be cases where it is good to forbid a specific Primary CPICH to affect the reporting range. For example in Figure 78 the network has requested the UE to not let Primary CPICH 3 affect the reporting range. This mechanism could be effective if the operator knows by experience that the quality of Primary CPICH 3 is very unstable in a specific area and therefore should not affect the reporting of the other Primary CPICHs.

The UE shall ignore that a Primary CPICH is forbidden to affect the reporting range if all of the following conditions are fulfilled:

- The Primary CPICH is included in active set.

- All cells in active set are defined as Primary CPICHs forbidden to affect the reporting range.
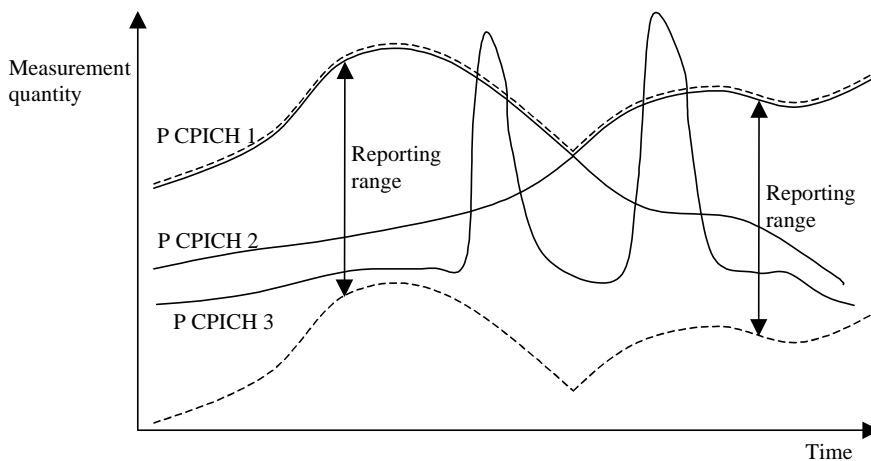
Figure 78: Primary CPICH 3 is forbidden to affect the reporting range

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331 CR **551r1**   Current Version: 3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: **TSG-RAN #10**   for approval **X**   strategic   *(for SMG*
list expected approval meeting # here   for information   non-strategic   *use only)*
↑

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:** 2000-10-11

Subject: PRACH/RACH System information

Work item:

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
(only one category	B	Addition of feature			Release 97	
shall be marked	C	Functional modification of feature			Release 98	
with an X)	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change: A refinement of the RACH model (proposed for TS 25.302) implies small correction (generalization) of in a note related to the "PRACH system information list" IE. Furthermore the presence of the "PRACH system information list" and "Secondary CCPCH system information" IEs in SIB 6 is corrected (OP instead of MP).

Clauses affected: 10.2.49.8.7, 10.3.6.54, 11.3.8

Other specs affected:	Other 3G core specifications	**X**	→ List of CRs:	25.302 CR 072, 25.922 CR 008
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:

help.doc

<-------- double-click here for help and instructions on how to create a CR.

10.2.49.8.7 System Information Block type 6

The system information block type 6 contains parameters for the configuration of the common and shared physical channels to be used in connected mode. The block may also contain scheduling information for other system information blocks.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
References to other system information blocks	OP		References to other system information blocks 10.3.8.11	Only system information blocks with area scope "Cell" and update mechanism "value tag" may be referenced.
PhyCH information elements				
CHOICE *mode*	MP			
>FDD				
>>PICH Power offset	MP		PICH Power offset 10.3.6.49	
>>AICH Power offset	MP		AICH Power offset 10.3.6.3	
>>CSICH Power offset	OP		CSICH Power offset 10.3.6.14	
>TDD				
>>PUSCH system information	OP		PUSCH system information 10.3.6.65	
>>PDSCH system information	OP		PDSCH system information 10.3.6.45	
>>Midamble configuration	MD		Midamble configuration 10.3.6.39	Default value is defined in 10.3.6.39

>>Primary CCPCH Tx Power	OP		Primary CCPCH Tx Power 10.3.6.58	For path loss calculation
>>PRACH Constant Value	OP		Constant Value 10.3.6.10	Operator controlled PRACH Margin for SF 16 case. In the SF 8 case 3dB is added.
>>DPCH Constant Value	OP		Constant Value 10.3.6.10	Operator controlled UL DPCH Margin
>>PUSCH Constant Value	OP		Constant Value 10.3.6.10	Operator controlled PUSCH Margin
Primary CCPCH info	OP		Primary CCPCH info 10.3.6.56	Note 1
PRACH system information list	MPOP		PRACH system information list 10.3.6.54	
Secondary CCPCH system information	MPOP		Secondary CCPCH system information 10.3.6.71	
CBS DRX Level 1 information	CV CTCH		CBS DRX Level 1 information 10.3.8.3	

NOTE 1: DL scrambling code of the Primary CCPCH is the same as the one for Primary CPICH (FDD only).

Condition	Explanation
CTCH	The IE is mandatory if the IE "CTCH indicator" is equal to TRUE for at least one FACH, otherwise the IE is not needed

10.3.6.54 PRACH system information list

Information element	Need	Multi	Type and reference	Semantics description
PRACH system information	MP	1 .. <maxPRACH>		
>PRACH info	MP		PRACH info (for RACH) 10.3.6.51	
>Transport channel identity	MP		Transport channel identity 10.3.5.18	
>RACH TFS	MD		Transport format set 10.3.5.23	Default value is the value of "RACH TFS" for the previous PRACH in the list (note : the first occurrence is then MP)
>RACH TFCS	MD		Transport Format Combination Set 10.3.5.20	Default value is the value of "RACH TFCS" for the previous PRACH in the list (note : the first occurrence is then MP)
>PRACH partitioning	MD		PRACH partitioning 10.3.6.45	Default value is the value of "PRACH partitioning" for the previous PRACH in the list (note : the first occurrence is then MP)
>Persistence scaling factors	OP		Persistence scaling factors 10.3.6.47	If this IE is absent, value is the value of "Persistence scaling factors" for the previous PRACH in the list if value exists
>AC-to-ASC mapping	OP		AC-to-ASC mapping 10.3.6.1	Only present in SIB 5 If this IE is absent, value is the value of "AC-to-ASC mapping ~~Persistence scaling factor~~s" for the previous PRACH in the list if value exists
>CHOICE *mode*	MP			
>>FDD				
>>>Primary CPICH TX power	MD		Primary CPICH TX power 10.3.6.60	Default value is the value of "Primary CPICH TX power" for the previous PRACH in the list (note : the first occurrence is then MP)
>>>Constant value	MD		Constant value 10.3.6.10	Default value is the value of "Constant value" for the previous PRACH in the list (note : the first occurrence is then MP)
>>>PRACH power offset	MD		PRACH power offset 10.3.6.53	Default value is the value of "PRACH power offset" for the previous PRACH in the list (note : the first occurrence is then MP)
>>>RACH transmission parameters	MD		RACH transmission parameters 10.3.6.66	Default value is the value of "RACH transmission parameters" for the previous PRACH in the list (note : the first occurrence is then MP)
>>>AICH info	MD		AICH info 10.3.6.2	Default value is the value of "AICH info" for the previous PRACH in the list (note : the first occurrence is then MP)
>>TDD				(no data)

NOTE: If the setting of the PRACH information results in that a combination of a signature, preamble scrambling code and subchannel corresponds to a RACH with ~~a TTI of both 10 ms and 20 ms~~different TFS and/or TFCS, then for that combination only the ~~TTI~~ TFS/TFCS of ~~value 10 ms~~the PRACH listed first is valid, where PRACHs listed in SIB 5 shall be counted first.

*** **Next modified section** ***

11.3.8   Other information elements

```
SysInfoType6 ::=                      SEQUENCE {
    -- Other IEs
        sib-ReferenceList             SIB-ReferenceList               OPTIONAL,
    -- Physical channel IEs
        modeSpecificInfo              CHOICE {
            fdd                               SEQUENCE {
                pich-PowerOffset              PICH-PowerOffset,
                aich-PowerOffset              AICH-PowerOffset,
                csich-PowerOffset             CSICH-PowerOffset         OPTIONAL
            },
            tdd                               SEQUENCE {
                pusch-SysInfoList-SFN         PUSCH-SysInfoList-SFN     OPTIONAL,
                pdsch-SysInfoList-SFN         PDSCH-SysInfoList-SFN     OPTIONAL,
                midambleConfiguration         MidambleConfiguration     OPTIONAL,
                primaryCCPCH-TX-Power         PrimaryCCPCH-TX-Power     OPTIONAL,
                prach-ConstantValue           ConstantValue             OPTIONAL,
                dpch-ConstantValue            ConstantValue             OPTIONAL,
                pusch-ConstantValue           ConstantValue             OPTIONAL
            }
        },
        primaryCCPCH-Info             PrimaryCCPCH-Info               OPTIONAL,
        prach-SystemInformationList   PRACH-SystemInformationList,    OPTIONAL,
        sCCPCH-SystemInformationList  SCCPCH-SystemInformationList,   OPTIONAL,
        cbs-DRX-Level1Information      CBS-DRX-Level1Information        OPTIONAL,
        -- Conditional on any of the CTCH indicator IEs in
        -- sCCPCH-SystemInformationList
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions         SEQUENCE {}
}
```

<table>
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CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

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<tr><td colspan="3">

25.331 CR **553r1**   Current Version: 3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   ↑ *CR number as allocated by MCC support team*

</td></tr>
<tr><td colspan="3">

For submission to: TSG-RAN #10   for approval   **X**   strategic   *(for SMG*
list expected approval meeting # here   for information   non-strategic   *use only)*
      ↑

</td></tr>
</table>

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2		**Date:**	2000-10-12

Subject:	GSM Measurement reporting

Work item:	

Category: F   Correction   **X**   **Release:**   Phase 2

(only one category
shall be marked
with an X)

Category		Release	
A	Corresponds to a correction in an earlier release	Phase 2	
B	Addition of feature	Release 96	
C	Functional modification of feature	Release 97	
D	Editorial modification	Release 98	
		Release 99	**X**
		Release 00	

(F Correction marked with **X** *)*

Reason for change:	Some of the GSM measurements need to be clarified related to the verification of BSIC.
In WG4 the requirements for some GSM measurements are connected to the measurement purpose for the compressed mode pattern. Three purposes are used:
1. GSM RSSI
2. Initial BSIC decoding
3. BSIC re-confirmation

The measurement "Observed time difference to GSM cell" should also be measured. In 10.3.7.29 "Inter-system measurement quantity" of RRC, it is stated in a note that observed time difference to GSM cell only can be reported for cells when BSIC is requested to be verified. That implicitly means that Observed time difference to GSM cell only can be reported if any of the compressed mode patterns 2 or 3 is activated.

1. This CR proposes to clarify in chapter 8 which GSM measurements need BSIC verification and when/how the different GSM measurement quantities are included in the measurement report.

2. Since, the BSIC is sent to the UE when measuring on GSM cells it is proposed that instead of sending the BSIC in the report back to UTRAN, the UE should instead send an index of which cell that was measured according to what UTRAN sent to the UE. This is inline with the improvements that were done in GSM with the enhanced measurement report. Although, if BSIC was not possible to achieve instead the GSM frequency is sent. |

Clauses affected: 2, 8.6.7.4, new 8.6.7.x ,10.3.7.26, 10.3.7.28, 10.3.7.32, 11.3.7

Other specs affected:

Other 3G core specifications	☐	→	List of CRs:
Other GSM core specifications	☐	→	List of CRs:
MS test specifications	☐	→	List of CRs:
BSS test specifications	☐	→	List of CRs:
O&M specifications	☐	→	List of CRs:

Other comments:

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2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   3G TR 21.905: "Vocabulary for 3GPP Specifications".

[2]   3G TS 25.301: "Radio Interface Protocol Architecture".

[3]   3G TS 25.303: "Interlayer Procedures in Connected Mode".

[4]   3G TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".

[5]   3G TS 24.008: "Mobile radio interface layer 3 specification, Core Network Protocols - Stage 3".

[6]   3G TS 25.103: "RF Parameters in Support of RRM".

[7]   3G TS 25.215: "Physical layer – Measurements (FDD)".

[8]   3G TS 25.225: "Physical layer – Measurements (TDD)".

[9]   3G TS 25.401: "UTRAN overall description".

[10]   3G TS 25.402: "Synchronisation in UTRAN, stage 2".

[11]   3G TS 23.003: "Numbering, addressing and identification".

[12]   ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".

[13]   RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

[14]   3G TR 25.921: "Guidelines and Principles for protocol description and error handling".

[15]   3G TS 25.321: "MAC protocol specification".

[16]   3G TS 25.322: "RLC Protocol Specification".

[17]   3G TS 24.007: "Mobile radio interface signalling layer 3".

[18]   3G TS 25.305: "Stage 2 Functional Specification of Location Services in UTRAN".

[19]   3G TS 25.133: "Requirements for Support of Radio Resource Management (FDD)".

***   Next modified section   ***

8.6.7.4   Inter-system measurement quantity

If the IE "Inter-system measurement quantity" is received and CHOICE system is GSM, the UE shall check the ~~parameter~~ IE "BSIC verification required".

If IE "BSIC verification required" is set to "required" the UE shall, for cells that match any of the BCCH ARFCN and BSIC combinations in the list of inter-system cells that the UE has received in IE "Inter-system cell info list", and that has a "verified" BSIC

> only report measurement quantities according to IE "inter-system reporting quantity"for GSM cells with a "verified" BSIC.

> trigger inter-system events according to IE "inter-system measurement reporting criteria".

If IE "BSIC verification required" is set to "not required" the UE shall, for cells that match any of the BCCH ARFCN in the list of inter-system cells that the UE has received in IE "Inter-system cell info list", regardless if the BSIC is "verified" or "non-verified"

> report measurement quantities according to IE "inter-system reporting quantity".for GSM cells both with "verified" and "non-verified" BSIC.

> trigger inter-system events according to IE "inter-system measurement reporting criteria".

The requirements for a cell to be considered "verified" or "non-verified" can be found in TS 25.133[19].

┌───┐
│   *** Next modified section ***   │
└───┘

## 8.6.7.x	Inter-system reporting quantity

If the IE "Inter-system measurement quantity" is received and CHOICE system is GSM, the UE shall check each quantity in the GSM choice. When sending a inter-system measurement report the UE shall:

> If IE "Pathloss" is set to "TRUE",

>> include optional IE "Pathloss" with a value set to the measured pathloss to that GSM cell in IE "Inter-system measured results list"

> If IE "Observed time difference to GSM cell" is set to "TRUE",

>> include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-system cells that the UE has received in IE "Inter-system cell info list". Observed time difference to GSM cells with "non-verified" BSIC shall not be included.

> If IE "GSM Carrier RSSI" is set to "TRUE",

>> include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-system measured results list"

When reporting inter-system measurement events and/or results the UE shall

> If the BSIC of reported GSM cell is "verified"

>> set the CHOICE BSIC to "Verified BSIC" and IE "inter-system cell id" to the value that GSM cell had in the IE "Inter-sstem cell info list".

> If the BSIC of reported GSM cell is "non-verified"

>> set the CHOICE BSIC to "Non verified BSIC" and the IE "BCCH ARFCN" to the value of that GSM cells ARFCN.

The requirements for a cell to be considered "verified" or "non-verified" can be found in [19].

10.3.7.26   Inter-system measured results list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Inter-system measurement results	OP	1 to <maxOther RAT>		
>CHOICE system				At least one spare value, criticality = reject, required
>>GSM				
>>>Frequency	MP			
>>>GSM carrier RSSI	OP		bit string(6)	RXLEV GSM TS 05.08
>>>Pathloss	OP		Integer(46..158)	In dB
>>>CHOICE BSIC	MP			
>>>>Verified BSIC	OP		BSIC 10.3.8.2	
>>>>> inter-system cell id			Integer(0..<maxCellMeas>)	
>>>>Non verified BSIC				
>>>>>BCCH ARFCN			Integer (0..1023)	GSM TS 04.18
>>>Observed time difference to GSM cell	OP		Observed time difference to GSM cell 10.3.7.77	

10.3.7.28   Inter-system measurement event results

This IE contains the measurement event results that are reported to UTRAN for inter-system measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Inter-system event identity	MP		Inter-system event identity 10.3.7.24	
Cells to report	MP	1 to <maxCellMeas>		
>Frequency	MP			
>CHOICE BSIC	MP			
>>Verified BSIC	MP		BSIC 10.3.8.2	
>>>inter-system cell id			Integer(0..<maxCellMeas>)	
>>Non verified BSIC				
>>>BCCH ARFCN			Integer (0..1023)	GSM TS 04.18

10.3.7.32   Inter-system reporting quantity

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UTRAN estimated quality	MP		Boolean	
CHOICE *system*	MP			At least one spare choice, criticality = reject, required
>GSM				
>>Pathloss	MP		Boolean	
>>Observed time difference to GSM cell	MP		Boolean	
>>GSM Carrier RSSI	MP		Boolean	
>>BSIC	MP		Boolean	

11.3.7   Measurement information elements

```
Measurement-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

    CellIdentity
FROM UTRANMobility-IEs

    UTRAN-DRX-CycleLengthCoefficient
FROM UserEquipment-IEs

    RB-Identity
FROM RadioBearer-IEs

    TFCS-IdentityPlain,
    TransportChannelIdentity
FROM TransportChannel-IEs

    BurstType,
    CellParametersID,
    FrequencyInfo,
    MaxAllowedUL-TX-Power,
    PrimaryCCPCH-Info,
    PrimaryCCPCH-TX-Power,
    PrimaryCPICH-Info,
    PrimaryCPICH-TX-Power,
    TimeslotNumber,
    UL-TimingAdvance
FROM PhysicalChannel-IEs

    BSIC
FROM Other-IEs

    maxAdditionalMeas,
    maxCCTrCH,
    maxCellMeas,
    maxCellMeas-1,
    maxFreq,
    maxMeasEvent,
    maxMeasParEvent,
    maxOtherRAT,
    maxRB,
```

```
            maxRL,
            maxRL-1,
            maxSat,
            maxTrCH,
            maxTS
    FROM Constant-definitions;

    AcquisitionSatInfo ::=              SEQUENCE {
            satID                           SatID,
            doppler0thOrder                 INTEGER (-2048..2047),
            extraDopplerInfo                ExtraDopplerInfo                OPTIONAL,
            codePhase                       INTEGER (0..1022),
            integerCodePhase                INTEGER (0..19),
            gps-BitNumber                   INTEGER (0..3),
            codePhaseSearchWindow           CodePhaseSearchWindow,
            azimuthAndElevation             AzimuthAndElevation             OPTIONAL
    }

    AcquisitionSatInfoList ::=          SEQUENCE (SIZE (1..maxSat)) OF
                                            AcquisitionSatInfo

    AdditionalAssistanceData ::=        OCTET STRING (SIZE (1..38))

    AdditionalMeasurementID-List ::=    SEQUENCE (SIZE (1..maxAdditionalMeas)) OF
                                            MeasurementIdentityNumber


    AlmanacSatInfo ::=                  SEQUENCE {
            satID                           SatID,
            e                               BIT STRING (SIZE (16)),
            t-oa                            BIT STRING (SIZE (8)),
            deltaI                          BIT STRING (SIZE (16)),
            omegaDot                        BIT STRING (SIZE (16)),
            satHealth                       BIT STRING (SIZE (8)),
            a-Sqrt                          BIT STRING (SIZE (24)),
            omega0                          BIT STRING (SIZE (24)),
            m0                              BIT STRING (SIZE (24)),
            omega                           BIT STRING (SIZE (24)),
            af0                             BIT STRING (SIZE (11)),
            af1                             BIT STRING (SIZE (11))
    }

    AlmanacSatInfoList ::=              SEQUENCE (SIZE (1..maxSat)) OF
                                            AlmanacSatInfo

    AverageRLC-BufferPayload ::=        ENUMERATED {
                                            pla0, pla4, pla8, pla16, pla32,
                                            pla64, pla128, pla256, pla512,
                                            pla1024, pla2k, pla4k, pla8k, pla16k,
                                            pla32k, pla64k, pla128k, pla256k,
                                            pla512k, pla1024k }

    AzimuthAndElevation ::=             SEQUENCE {
            azimuth                         INTEGER (0..31),
            elevation                       INTEGER (0..7)
    }

    BadSatList ::=                      SEQUENCE (SIZE (1..maxSat)) OF
                                            INTEGER (0..63)

    BCCH-ARFCN ::=                      INTEGER (0..1023)

    BLER-MeasurementResults ::=         SEQUENCE {
            transportChannelIdentity        TransportChannelIdentity,
            dl-TransportChannelBLER         DL-TransportChannelBLER         OPTIONAL
    }

    BLER-MeasurementResultsList ::=     SEQUENCE (SIZE (1..maxTrCH)) OF
                                            BLER-MeasurementResults

    BLER-TransChIdList ::=              SEQUENCE (SIZE (1..maxTrCH)) OF
                                            TransportChannelIdentity


    BSIC-VerificationRequired ::=       ENUMERATED {
                                            required, notRequired }

    BSICReported ::=                    CHOICE {
```

```
    verifiedBSIC                    INTEGER (0..maxCellMeas),
    nonVerifiedBSIC                 BCCH-ARFCN
}

BurstModeParameters ::=             SEQUENCE {
    burstStart                      INTEGER (0..15),
    burstLength                     INTEGER (10..25),
    burstFreq                       INTEGER (1..16)
}



CellDCH-ReportCriteria ::=          CHOICE {
    intraFreqReportingCriteria      IntraFreqReportingCriteria,
    periodicalReportingCriteria     PeriodicalReportingCriteria
}

-- Actual value = IE value * 0.5
CellIndividualOffset ::=            INTEGER (-20..20)


CellInfo ::=                        SEQUENCE {
    cellIndividualOffset            CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell   ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power           PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator               BOOLEAN,
            tx-DiversityIndicator           BOOLEAN
        },
        tdd                             SEQUENCE {
            primaryCCPCH-Info               PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power           PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                TimeslotInfoList            OPTIONAL
        }
    }
}


CellInfoSI-RSCP ::=                 SEQUENCE {
    cellIndividualOffset            CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell   ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power           PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator               BOOLEAN,
            tx-DiversityIndicator           BOOLEAN
        },
        tdd                             SEQUENCE {
            primaryCCPCH-Info               PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power           PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                TimeslotInfoList            OPTIONAL
        }
    },
    cellSelectionReselectionInfo    CellSelectReselectInfoSIB-11-12-RSCP      OPTIONAL
}

CellInfoSI-ECN0 ::=                 SEQUENCE {
    cellIndividualOffset            CellIndividualOffset          DEFAULT 0,
    referenceTimeDifferenceToCell   ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power           PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator               BOOLEAN,
            tx-DiversityIndicator           BOOLEAN
        },
        tdd                             SEQUENCE {
            primaryCCPCH-Info               PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power           PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                TimeslotInfoList            OPTIONAL
        }
    },
    cellSelectionReselectionInfo    CellSelectReselectInfoSIB-11-12-ECN0     OPTIONAL
}
```

```
CellInfoSI-HCS-RSCP ::=              SEQUENCE {
    cellIndividualOffset            CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell   ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power           PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator               BOOLEAN,
            tx-DiversityIndicator           BOOLEAN
        },
        tdd                             SEQUENCE {
            primaryCCPCH-Info               PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power           PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                TimeslotInfoList            OPTIONAL
        }
    },
    cellSelectionReselectionInfo    CellSelectReselectInfoSIB-11-12-HCS-RSCP   OPTIONAL
}

CellInfoSI-HCS-ECN0 ::=             SEQUENCE {
    cellIndividualOffset            CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell   ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power           PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator               BOOLEAN,
            tx-DiversityIndicator           BOOLEAN
        },
        tdd                             SEQUENCE {
            primaryCCPCH-Info               PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power           PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                TimeslotInfoList            OPTIONAL
        }
    },
    cellSelectionReselectionInfo    CellSelectReselectInfoSIB-11-12-HCS-ECN0   OPTIONAL
}

CellMeasuredResults ::=             SEQUENCE {
    cellIdentity                    CellIdentity                    OPTIONAL,
    sfn-SFN-ObsTimeDifference       SFN-SFN-ObsTimeDifference       OPTIONAL,
    cfn-SFN-ObsTimeDifference       CFN-SFN-ObsTimeDifference       OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            primaryCPICH-Info               PrimaryCPICH-Info,
            cpich-Ec-N0                     CPICH-Ec-N0                 OPTIONAL,
            cpich-RSCP                      CPICH-RSCP                  OPTIONAL,
            pathloss                        Pathloss                    OPTIONAL
        },
        tdd                             SEQUENCE {
            cellParametersID                CellParametersID,
            primaryCCPCH-RSCP               PrimaryCCPCH-RSCP           OPTIONAL,
            timeslotISCP-List               TimeslotISCP-List           OPTIONAL
        }
    }
}

CellMeasurementEventResults ::=     CHOICE {
    fdd                             SEQUENCE (SIZE (1..maxCellMeas)) OF
                                        PrimaryCPICH-Info,
    tdd                             SEQUENCE (SIZE (1..maxCellMeas)) OF
                                        PrimaryCCPCH-Info
}

CellPosition ::=                    SEQUENCE {
    relativeNorth                   INTEGER (-32767..32767),
    relativeEast                    INTEGER (-32767..32767),
    relativeAltitude                INTEGER (-4095..4095)
}


CellReportingQuantities ::=         SEQUENCE {
    sfn-SFN-OTD-Type                SFN-SFN-OTD-Type,
    cellIdentity                    BOOLEAN,
    cfn-SFN-ObsTimeDifference       BOOLEAN,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            cpich-Ec-N0                     BOOLEAN,
```

```
            cpich-RSCP                      BOOLEAN,
            pathloss                        BOOLEAN
        },
        tdd                             SEQUENCE {
            timeslotISCP                    BOOLEAN,
            primaryCCPCH-RSCP               BOOLEAN,
            pathloss                        BOOLEAN
        }
    }
}


CellSelectReselectInfoSIB-11-12-RSCP ::=    SEQUENCE {
    q-OffsetS-N                     Q-OffsetS-N                     DEFAULT 0,
    maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            q-QualMin                       Q-QualMin               OPTIONAL,
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        },
        tdd                             SEQUENCE {
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-ECN0 ::=    SEQUENCE {
    q-Offset1S-N                    Q-OffsetS-N                     DEFAULT 0,
    q-Offset2S-N                    Q-OffsetS-N                     DEFAULT 0,
    maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            q-QualMin                       Q-QualMin               OPTIONAL,
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        },
        tdd                             SEQUENCE {
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-HCS-RSCP ::=    SEQUENCE {
    q-OffsetS-N                     Q-OffsetS-N                     DEFAULT 0,
    maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
    hcs-NeighbouringCellInformation-RSCP    HCS-NeighbouringCellInformation-RSCP
    OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            q-QualMin                       Q-QualMin               OPTIONAL,
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        },
        tdd                             SEQUENCE {
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        }
    }
}
--???
CellSelectReselectInfoSIB-11-12-HCS-ECN0 ::=    SEQUENCE {
    q-Offset1S-N                    Q-OffsetS-N                     DEFAULT 0,
    q-Offset2S-N                    Q-OffsetS-N                     DEFAULT 0,
    maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
    hcs-NeighbouringCellInformation-ECN0    HCS-NeighbouringCellInformation-ECN0
    OPTIONAL,
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            q-QualMin                       Q-QualMin               OPTIONAL,
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        },
        tdd                             SEQUENCE {
            q-RxlevMin                      Q-RxlevMin              OPTIONAL
        }
    }
}


CellToMeasure ::=                   SEQUENCE {
    sfn-sfn-Drift                   INTEGER (0..30)                 OPTIONAL,
    primaryCPICH-Info               PrimaryCPICH-Info,
    frequencyInfo                   FrequencyInfo                   OPTIONAL,
```

```
        sfn-SFN-ObservedTimeDifference      SFN-SFN-ObsTimeDifference1,
        fineSFN-SFN                         FineSFN-SFN,
        cellPosition                        CellPosition                    OPTIONAL
    }

CellToMeasureInfoList ::=               SEQUENCE (SIZE (1..maxCellMeas)) OF
                                            CellToMeasure

CellToReport ::=                        SEQUENCE {
        frequency                           Frequency,
        bsicReported                                BSICReported
    }

CellToReportList ::=                    SEQUENCE (SIZE (1..maxCellMeas)) OF
                                            CellToReport


CFN-SFN-ObsTimeDifference ::=           CHOICE {
        fdd-ChipDiff                        INTEGER (0..157286399),
        tdd-FrameDiff                       INTEGER (0..4095)
    }

CodePhaseSearchWindow ::=               ENUMERATED {
                                            w1023, w1, w2, w3, w4, w6, w8,
                                            w12, w16, w24, w32, w48, w64,
                                            w96, w128, w192 }

CPICH-Ec-N0 ::=                         INTEGER (-20..0)

-- IE value 0 = <-24 dB, 1 = between -24 and -23 and so on
CPICH-Ec-N0-OTDOA ::=                   INTEGER (0..26)

CPICH-RSCP ::=                          INTEGER (-115..-40)


DeltaPRC ::=                            INTEGER (-127..127)

DeltaRRC ::=                            INTEGER (-7..7)

DGPS-CorrectionSatInfo ::=              SEQUENCE {
        satID                               SatID,
        iode                                BIT STRING (SIZE (8)),
        udre                                UDRE,
        prc                                 PRC,
        rrc                                 RRC,
        deltaPRC2                           DeltaPRC,
        deltaRRC2                           DeltaRRC,
        deltaPRC3                           DeltaPRC,
        deltaRRC3                           DeltaRRC
    }

DGPS-CorrectionSatInfoList ::=          SEQUENCE (SIZE (1..maxSat)) OF
                                            DGPS-CorrectionSatInfo

DGPS-Information ::=                     SEQUENCE {
        satID                               SatID,
        iode                                IODE,
        udre                                UDRE,
        prc                                 PRC,
        rrc                                 RRC,
        deltaPRC2                           DeltaPRC,
        deltaRRC2                           DeltaRRC
    }

DGPS-InformationList ::=                SEQUENCE (SIZE (1..maxSat)) OF
                                            DGPS-Information

DiffCorrectionStatus ::=                ENUMERATED {
                                            udre-1-0, udre-0-75, udre-0-5, udre-0-3,
                                            udre-0-2, udre-0-1, noData, invalidData }


-- Actual value = IE value * 0.02
DL-PhysicalChannelBER ::=               INTEGER (0..255)

-- Actual value = IE value * 0.02
DL-TransportChannelBLER ::=             INTEGER (0..255)
```

```
DopplerUncertainty ::=              ENUMERATED {
                                        hz12-5, hz25, hz50, hz100, hz200 }

EllipsoidPoint ::=                  OCTET STRING (SIZE (7))

EllipsoidPointAltitude ::=          OCTET STRING (SIZE (9))

EllipsoidPointAltitudeEllipse ::=   OCTET STRING (SIZE (14))

EllipsoidPointUncertCircle ::=      OCTET STRING (SIZE (8))

EllipsoidPointUncertEllipse ::=     OCTET STRING (SIZE (11))

EnvironmentCharacterization ::=     ENUMERATED {
                                        possibleHeavyMultipathNLOS,
                                        lightMultipathLOS,
                                        notDefined }


Event1a ::=                         SEQUENCE {
    triggeringCondition                 TriggeringCondition,
    reportingRange                      ReportingRange,
    forbiddenAffectCellList             ForbiddenAffectCellList          OPTIONAL,
    w                                   W,
    reportDeactivationThreshold         ReportDeactivationThreshold
}


Event1b ::=                         SEQUENCE {
    triggeringCondition                 TriggeringCondition,
    reportingRange                      ReportingRange,
    forbiddenAffectCellList             ForbiddenAffectCellList          OPTIONAL,
    w                                   W
}


Event1c ::=                         SEQUENCE {
    replacementActivationThreshold      ReplacementActivationThreshold
}


Event1ef ::=                        SEQUENCE {
    triggeringCondition                 TriggeringCondition,
    thresholdUsedFrequency              ThresholdUsedFrequency
}


Event2a ::=                         SEQUENCE {
    usedFreqThreshold                   Threshold,
    usedFreqW                           W,
    hysteresis                          HysteresisInterFreq,
    timeToTrigger                       TimeToTrigger,
    reportingAmount                     ReportingAmount,
    reportingInterval                   ReportingInterval,
    reportingCellStatus                 ReportingCellStatus              OPTIONAL,
    nonUsedFreqParameterList            NonUsedFreqParameterList         OPTIONAL
}


Event2b ::=                         SEQUENCE {
    usedFreqThreshold                   Threshold,
    usedFreqW                           W,
    hysteresis                          HysteresisInterFreq,
    timeToTrigger                       TimeToTrigger,
    reportingAmount                     ReportingAmount,
    reportingInterval                   ReportingInterval,
    reportingCellStatus                 ReportingCellStatus              OPTIONAL,
    nonUsedFreqParameterList            NonUsedFreqParameterList         OPTIONAL
}


Event2c ::=                         SEQUENCE {
    hysteresis                          HysteresisInterFreq,
    timeToTrigger                       TimeToTrigger,
    reportingAmount                     ReportingAmount,
    reportingInterval                   ReportingInterval,
    reportingCellStatus                 ReportingCellStatus              OPTIONAL,
    nonUsedFreqParameterList            NonUsedFreqParameterList         OPTIONAL
}
```

```
        }


Event2d ::=                          SEQUENCE {
    usedFreqThreshold                Threshold,
    usedFreqW                        W,
    hysteresis                       HysteresisInterFreq,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL
}


Event2e ::=                          SEQUENCE {
    hysteresis                       HysteresisInterFreq,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL,
    nonUsedFreqParameterList         NonUsedFreqParameterList       OPTIONAL
}


Event2f ::=                          SEQUENCE {
    usedFreqThreshold                Threshold,
    usedFreqW                        W,
    hysteresis                       HysteresisInterFreq,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL
}


Event3a ::=                          SEQUENCE {
    thresholdOwnSystem               Threshold,
    w                                W,
    thresholdOtherSystem             Threshold,
    hysteresis                       Hysteresis,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL
}


Event3b ::=                          SEQUENCE {
    thresholdOtherSystem             Threshold,
    hysteresis                       Hysteresis,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL

}


Event3c ::=                          SEQUENCE {
    thresholdOtherSystem             Threshold,
    hysteresis                       Hysteresis,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL

}


Event3d ::=                          SEQUENCE {
    hysteresis                       Hysteresis,
    timeToTrigger                    TimeToTrigger,
    reportingAmount                  ReportingAmount,
    reportingInterval                ReportingInterval,
    reportingCellStatus              ReportingCellStatus            OPTIONAL

}
```

```
EventIDInterFreq ::=              ENUMERATED {
                                     e2a, e2b, e2c, e2d, e2e, e2f }

EventIDInterSystem ::=            ENUMERATED {
                                     e3a, e3b, e3c, e3d }


EventIDIntraFreq ::=              ENUMERATED {
                                     e1a, e1b, e1c, e1d, e1e,
                                     e1f, e1g, e1h, e1i }

EventResults ::=                  CHOICE {
    intraFreqEventResults             IntraFreqEventResults,
    interFreqEventResults             InterFreqEventResults,
    interSystemEventResults           InterSystemEventResults,
    trafficVolumeEventResults         TrafficVolumeEventResults,
    qualityEventResults               QualityEventResults,
    ue-InternalEventResults           UE-InternalEventResults,
    lcs-MeasurementEventResults       LCS-MeasurementEventResults
}

ExtraDopplerInfo ::=              SEQUENCE {
    doppler1stOrder                   INTEGER (-42..21),
    dopplerUncertainty                DopplerUncertainty
}


FACH-MeasurementOccasionInfo ::=  SEQUENCE {
    k-UTRA                            UTRAN-DRX-CycleLengthCoefficient,
    otherRAT-InSysInfoList            OtherRAT-InSysInfoList              OPTIONAL
}


FilterCoefficient ::=             ENUMERATED {
                                     fc0, fc1, fc2, fc3, fc4, fc5,
                                     fc6, fc7, fc8, fc9, fc11, fc13,
                                     fc15, fc17, fc19, spare1 }

FineSFN-SFN ::=                   ENUMERATED {
                                     fs0, fs0-25, fs0-5, fs0-75 }

ForbiddenAffectCell ::=           CHOICE {
    fdd                               PrimaryCPICH-Info,
    tdd                               PrimaryCCPCH-Info
}

ForbiddenAffectCellList ::=       SEQUENCE (SIZE (1..maxCellMeas)) OF
                                     ForbiddenAffectCell

FreqQualityEstimateQuantity-FDD ::= ENUMERATED {
                                     cpich-Ec-N0,
                                     cpich-RSCP }

FreqQualityEstimateQuantity-TDD ::= ENUMERATED {
                                     primaryCCPCH-RSCP }

-- **TODO**, not defined yet
Frequency ::=                     SEQUENCE {
}

GSM-CarrierRSSI ::=               BIT STRING (SIZE (6))

GPS-MeasurementParam ::=          SEQUENCE {
    satelliteID                       INTEGER (0..63),
    c-N0                              INTEGER (0..63),
    doppler                           INTEGER (-32768..32768),
    wholeGPS-Chips                    INTEGER (0..1023),
    fractionalGPS-Chips               INTEGER (0..1023),
    multipathIndicator                MultipathIndicator,
    pseudorangeRMS-Error              INTEGER (0..63)
}

GPS-MeasurementParamList ::=      SEQUENCE (SIZE (1..maxSat)) OF
                                     GPS-MeasurementParam

-- **TODO**, not defined yet
GSM-OutputPower ::=               SEQUENCE {
}
```

```
    GPS-TOW-1msec ::=                   INTEGER (0..604799999)


    GPS-TOW-1usec ::=                   SEQUENCE {
        tow-1msec                           GPS-TOW-1msec,
        tow-rem-usec                        GPS-TOW-rem-usec
    }

    GPS-TOW-Assist ::=                  SEQUENCE {
        satID                               SatID,
        tlm-Message                         BIT STRING (SIZE (14)),
        antiSpoof                           BOOLEAN,
        alert                               BOOLEAN,
        tlm-Reserved                        BIT STRING (SIZE (2))
    }

    GPS-TOW-AssistList ::=              SEQUENCE (SIZE (1..maxSat)) OF
                                            GPS-TOW-Assist


    GPS-TOW-rem-usec ::=                INTEGER (0..999)

    HCS-CellReselectInformation-RSCP ::=        SEQUENCE {
        penaltyTime                             PenaltyTime-RSCP
        -- TABULAR: The default value is "notUsed", temporary offset is nested inside PenaltyTime
    }

    HCS-CellReselectInformation-ECN0 ::=        SEQUENCE {
        penaltyTime                         PenaltyTime-ECN0
        -- TABULAR: The default value is "notUsed", temporary offset is nested inside PenaltyTime
    }

    HCS-NeighbouringCellInformation-RSCP ::= SEQUENCE {
        hcs-PRIO                            HCS-PRIO                        DEFAULT 0,
        q-HCS                               Q-HCS                           DEFAULT 0,
        hcs-CellReselectInformation         HCS-CellReselectInformation-RSCP
    }

    HCS-NeighbouringCellInformation-ECN0 ::= SEQUENCE {
        hcs-PRIO                            HCS-PRIO                        DEFAULT 0,
        q-HCS                               Q-HCS                           DEFAULT 0,
        hcs-CellReselectInformation         HCS-CellReselectInformation-ECN0
    }

    HCS-PRIO ::=                        INTEGER (0..7)

    HCS-ServingCellInformation ::=      SEQUENCE {
        hcs-PRIO                            HCS-PRIO                        DEFAULT 0,
        q-HCS                               Q-HCS                           DEFAULT 0,
        t-CR-Max                            T-CRMax                         OPTIONAL
    }

    -- Actual value = IE value * 0.5
    Hysteresis ::=                      INTEGER (0..15)

    -- Actual value = IE value * 0.5
    HysteresisInterFreq ::=             INTEGER (0..29)

    InterFreqCell ::=                   SEQUENCE {
        frequencyInfo                       FrequencyInfo,
        nonFreqRelatedEventResults          CellMeasurementEventResults
    }

    InterFreqCellID ::=                 INTEGER (0..maxCellMeas-1)

    InterFreqCellInfoList ::=           SEQUENCE {
        removedInterFreqCellList            RemovedInterFreqCellList           OPTIONAL,
        newInterFreqCellList                NewInterFreqCellList               OPTIONAL
    }

    InterFreqCellInfoSI-List-RSCP ::=        SEQUENCE {
        removedInterFreqCellList            RemovedInterFreqCellList           OPTIONAL,
        newInterFreqCellList                NewInterFreqCellSI-List-RSCP       OPTIONAL
    }

    InterFreqCellInfoSI-List-ECN0 ::=        SEQUENCE {
```

```
    removedInterFreqCellList            RemovedInterFreqCellList            OPTIONAL,
    newInterFreqCellList                NewInterFreqCellSI-List-ECN0        OPTIONAL
}

InterFreqCellInfoSI-List-HCS-RSCP ::=       SEQUENCE {
    removedInterFreqCellList            RemovedInterFreqCellList            OPTIONAL,
    newInterFreqCellList                NewInterFreqCellSI-List-HCS-RSCP    OPTIONAL
}
InterFreqCellInfoSI-List-HCS-ECN0 ::=       SEQUENCE {
    removedInterFreqCellList            RemovedInterFreqCellList            OPTIONAL,
    newInterFreqCellList                NewInterFreqCellSI-List-HCS-ECN0    OPTIONAL
}

InterFreqCellList ::=               SEQUENCE (SIZE (1..maxFreq)) OF
                                        InterFreqCell

InterFreqCellMeasuredResultsList ::= SEQUENCE (SIZE (1..maxCellMeas)) OF
                                        CellMeasuredResults

InterFreqEvent ::=                  CHOICE {
    event2a                             Event2a,
    event2b                             Event2b,
    event2c                             Event2c,
    event2d                             Event2d,
    event2e                             Event2e,
    event2f                             Event2f
}

InterFreqEventList ::=              SEQUENCE (SIZE (1..maxMeasEvent)) OF
                                        InterFreqEvent


InterFreqEventResults ::=           SEQUENCE {
    eventID                             EventIDInterFreq,
    interFreqCellList                   InterFreqCellList                   OPTIONAL
}


InterFreqMeasQuantity ::=           SEQUENCE {
    reportingCriteria                   CHOICE {
        intraFreqReportingCriteria          SEQUENCE {
            intraFreqMeasQuantity               IntraFreqMeasQuantity
        },
        interFreqReportingCriteria          SEQUENCE {
            filterCoefficient                   FilterCoefficient       DEFAULT fc0,
            modeSpecificInfo                    CHOICE {
                fdd                                 SEQUENCE {
                    freqQualityEstimateQuantity-FDD     FreqQualityEstimateQuantity-FDD
                },
                tdd                                 SEQUENCE {
                    freqQualityEstimateQuantity-TDD     FreqQualityEstimateQuantity-TDD
                }
            }
        }
    }
}

InterFreqMeasuredResults ::=        SEQUENCE {
    frequencyInfo                       FrequencyInfo                       OPTIONAL,
    utra-CarrierRSSI                    UTRA-CarrierRSSI                    OPTIONAL,
    interFreqCellMeasuredResultsList    InterFreqCellMeasuredResultsList    OPTIONAL
}

InterFreqMeasuredResultsList ::=    SEQUENCE (SIZE (1..maxFreq)) OF
                                        InterFreqMeasuredResults


InterFreqMeasurementSysInfo-RSCP ::=        SEQUENCE {
    interFreqMeasurementID              MeasurementIdentityNumber           DEFAULT 2,
    interFreqCellInfoSI-List            InterFreqCellInfoSI-List-RSCP       OPTIONAL,
    interFreqMeasQuantity               InterFreqMeasQuantity               OPTIONAL,
    interFreqReportingCriteria          InterFreqReportingCriteria          OPTIONAL
}

InterFreqMeasurementSysInfo-ECN0 ::=        SEQUENCE {
    interFreqMeasurementID              MeasurementIdentityNumber           DEFAULT 2,
    interFreqCellInfoSI-List            InterFreqCellInfoSI-List-ECN0       OPTIONAL,
    interFreqMeasQuantity               InterFreqMeasQuantity               OPTIONAL,
```

```
    interFreqReportingCriteria         InterFreqReportingCriteria        OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-RSCP ::=          SEQUENCE {
    interFreqMeasurementID             MeasurementIdentityNumber         DEFAULT 2,
    interFreqCellInfoSI-List           InterFreqCellInfoSI-List-HCS-RSCP OPTIONAL,
    interFreqMeasQuantity              InterFreqMeasQuantity             OPTIONAL,
    interFreqReportingCriteria         InterFreqReportingCriteria        OPTIONAL
}

InterFreqMeasurementSysInfo-HCS-ECN0 ::=          SEQUENCE {
    interFreqMeasurementID             MeasurementIdentityNumber         DEFAULT 2,
    interFreqCellInfoSI-List           InterFreqCellInfoSI-List-HCS-ECN0 OPTIONAL,
    interFreqMeasQuantity              InterFreqMeasQuantity             OPTIONAL,
    interFreqReportingCriteria         InterFreqReportingCriteria        OPTIONAL
}

InterFreqReportCriteria ::=         CHOICE {
    intraFreqReportingCriteria         IntraFreqReportingCriteria,
    interFreqReportingCriteria         InterFreqReportingCriteria,
    periodicalReportingCriteria        PeriodicalWithReportingCellStatus,
    noReporting                        ReportingCellStatusOpt
}

InterFreqReportingCriteria ::=      SEQUENCE {
    interFreqEventList                 InterFreqEventList                OPTIONAL
}

InterFreqReportingQuantity ::=      SEQUENCE {
    utra-Carrier-RSSI                  BOOLEAN,
    frequencyQualityEstimate           BOOLEAN,
    nonFreqRelatedQuantities           CellReportingQuantities
}


InterFrequencyMeasurement ::=       SEQUENCE {
    interFreqCellInfoList              InterFreqCellInfoList,
    interFreqMeasQuantity              InterFreqMeasQuantity             OPTIONAL,
    interFreqReportingQuantity         InterFreqReportingQuantity        OPTIONAL,
    measurementValidity                MeasurementValidity               OPTIONAL,
    interFreqSetUpdate                 UE-AutonomousUpdateMode           OPTIONAL,
    reportCriteria                     InterFreqReportCriteria
}

InterSystemCellID ::=               INTEGER (0..maxCellMeas-1)

InterSystemCellInfoList ::=         SEQUENCE {
    removedInterSystemCellList         RemovedInterSystemCellList,
    newInterSystemCellList             NewInterSystemCellList
}

InterSystemCellInfoList-HCS ::=         SEQUENCE {
    removedInterSystemCellList         RemovedInterSystemCellList,
    newInterSystemCellList             NewInterSystemCellList-HCS
}

InterSystemEvent ::=                CHOICE {
    event3a                            Event3a,
    event3b                            Event3b,
    event3c                            Event3c,
    event3d                            Event3d
}

InterSystemEventList ::=            SEQUENCE (SIZE (1..maxMeasEvent)) OF
                                       InterSystemEvent

InterSystemEventResults ::=         SEQUENCE {
    eventID                            EventIDInterSystem,
    cellToReportList                   CellToReportList
}

InterSystemInfo ::=                 ENUMERATED {
                                       gsm, spare1 }


InterSystemMeasQuantity ::=             SEQUENCE {
    measQuantityUTRAN-QualityEstimate     IntraFreqMeasQuantity,
    systemSpecificInfo                 CHOICE {
```

```
        gsm                                    SEQUENCE {
            measurementQuantity                    MeasurementQuantityGSM,
            filterCoefficient                      FilterCoefficient      DEFAULT fc1,
            bsic-VerificationRequired              BSIC-VerificationRequired
        },
        is-2000                                SEQUENCE {
            tadd-EcIo                              INTEGER (0..63),
            tcomp-EcIo                             INTEGER (0..15),
            softSlope                              INTEGER (0..63)        OPTIONAL,
            addIntercept                           INTEGER (0..63)        OPTIONAL
        }
    }
}

InterSystemMeasuredResults ::=      CHOICE {
    gsm                             SEQUENCE {
        frequency                              Frequency,
        gsm-CarrierRSSI                        GSM-CarrierRSSI            OPTIONAL,
        pathloss                               Pathloss                  OPTIONAL,
        bsicReported                                  BSICReported
        OPTIONAL,
        observedTimeDifferenceToGSM            ObservedTimeDifferenceToGSM    OPTIONAL
    },
    spare                           NULL
}

InterSystemMeasuredResultsList ::= SEQUENCE (SIZE (1..maxOtherRAT)) OF
                                   InterSystemMeasuredResults


InterSystemMeasurement ::=          SEQUENCE {
    interSystemCellInfoList                InterSystemCellInfoList       OPTIONAL,
    interSystemMeasQuantity                InterSystemMeasQuantity       OPTIONAL,
    interSystemReportingQuantity           InterSystemReportingQuantity  OPTIONAL,
    reportCriteria                         InterSystemReportCriteria
}

InterSystemMeasurementSysInfo ::=   SEQUENCE {
    interSystemMeasurementID               MeasurementIdentityNumber     DEFAULT 3,
    interSystemCellInfoList                InterSystemCellInfoList       OPTIONAL,
    interSystemMeasQuantity                InterSystemMeasQuantity       OPTIONAL
}

InterSystemMeasurementSysInfo-HCS ::=   SEQUENCE {
    interSystemMeasurementID               MeasurementIdentityNumber     DEFAULT 3,
    interSystemCellInfoList                InterSystemCellInfoList-HCS   OPTIONAL,
    interSystemMeasQuantity                InterSystemMeasQuantity       OPTIONAL
}

InterSystemReportCriteria ::=       CHOICE {
    interSystemReportingCriteria           InterSystemReportingCriteria,
    periodicalReportingCriteria            PeriodicalWithReportingCellStatus,
    noReporting                            ReportingCellStatusOpt
}

InterSystemReportingCriteria ::=    SEQUENCE {
    interSystemEventList                   InterSystemEventList          OPTIONAL
}

InterSystemReportingQuantity ::=    SEQUENCE {
    utran-EstimatedQuality             BOOLEAN,
    systemSpecificInfo                 CHOICE {
        gsm                                    SEQUENCE {
            pathloss                               BOOLEAN,
            observedTimeDifferenceGSM              BOOLEAN,
            gsm-Carrier-RSSI                       BOOLEAN,
            bsic                                   BOOLEAN
        },
        spare1                         NULL
    }
}
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331 CR	**554r1**	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	**X**	strategic		(for SMG
list expected approval meeting # here ↑		for information		non-strategic		*use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source:	TSG-RAN WG2	**Date:**	2000-10-12

Subject:	BLER measurement and quality target

Work item:	

Category:

				Release:		
F	Correction	**X**		Phase 2		
A	Corresponds to a correction in an earlier release			Release 96		
B	Addition of feature			Release 97		
C	Functional modification of feature			Release 98		
D	Editorial modification			Release 99	**X**	
				Release 00		

(only one category shall be marked with an X)

Reason for change:	This CR proposes a correction of the Block Error rate measurement and the DL outer loop quality target.

Clauses affected:	10.3.5.10, 10.3.7.80, 11.3.5, 11.3.7

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:	
Other GSM core specifications	☐	→ List of CRs:	
MS test specifications	☐	→ List of CRs:	
BSS test specifications	☐	→ List of CRs:	
O&M specifications	☐	→ List of CRs:	

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

10.3.5.10   Quality Target

Information Element/Group name	Need	Multi	Type and reference	Semantics description
BLER Quality value	MP		~~Real(0.00 ..1.00, by step of 0.02)~~ Real(-6.3 ..0 by step of 0.1)	~~In dB=~~ -Signalled value is Log10(Transport channel BLER quality target)

*** **Next modified section** ***

10.3.7.80   Quality measured results list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
BLER measurement results	OP	1 to <maxTrCH>		
>DL Transport channel identity	MP		Transport channel identity 10.3.5.18	
>DL Transport Channel BLER	OP		Integer (0..63)~~Real(0 .00 ..1.00, by step of 0.02)~~	Transport channel BLER according to the mapping of BLER_LOG value in 25.133~~In dB= -Log10(Transport channel BLER)~~
CHOICE mode				
>FDD				
>>SIR	OP		Integer(-10..20)	In dB
>TDD				
>>SIR measurement results	OP	1 to <MaxCCTrCH>		SIR measurements for DL CCTrCH
>>>TFCS ID	MP		Enumerated (1...8)	
>>>Timeslot list	MP	1 to <maxTS>		for all timeslot on which the CCTrCH is mapped on
>>>>SIR	MP		Integer(-10...20)	the UE shall report in ascending timeslot order

---

*** **Next modified section** ***

11.3.5   Transport channel information elements

```
TransportChannel-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

    hiRM,
    maxCCTrCH,
    maxCPCHsets,
```

```
        maxDRACclasses,
        maxPDSCH-TFCIgroups,
        maxTF,
        maxTFC,
        maxTrCH
    FROM Constant-definitions;

    AllowedTFC-List ::=                     SEQUENCE (SIZE (1..maxTFC)) OF
                                                TFC-Value

    AllowedTFI-List ::=                     SEQUENCE (SIZE (1..maxTF)) OF
                                                INTEGER (0..31)

    BitModeRLC-SizeInfo ::=                 CHOICE {
        sizeType1                               INTEGER (1..127),
        sizeType2                               SEQUENCE {
            part1                                   INTEGER (0..15),
            part2                                   INTEGER (1..7)              OPTIONAL
            -- Actual size = (part1 * 8) + 128 + part2
        },
        sizeType3                               SEQUENCE {
            part1                                   INTEGER (0..47),
            part2                                   INTEGER (1..15)             OPTIONAL
            -- Actual size = (part1 * 16) + 256 + part2
        },
        sizeType4                               SEQUENCE {
            part1                                   INTEGER (0..62),
            part2                                   INTEGER (1..63)             OPTIONAL
            -- Actual size = (part1 * 64) + 1024 + part2
        }
    }

    -- Actual value = IE value * 0.1
    BLER-QualityValue ::=                   INTEGER (-63..0)

    ChannelCodingType ::=                   CHOICE {
        noCoding                                NULL,
        convolutional                           CodingRate,
        turbo                                   NULL
    }

    CodingRate ::=                          ENUMERATED {
                                                half,
                                                third }

    CommonDynamicTF-Info ::=                SEQUENCE {
        numberOfTransportBlocks                 NumberOfTransportBlocks,
        rlc-Size                                CHOICE {
            fdd                                     SEQUENCE {
                octetModeRLC-SizeInfoType2              OctetModeRLC-SizeInfoType2  OPTIONAL
            },
            tdd                                     SEQUENCE {
                commonTDD-Choice                        CHOICE {
                    bitModeRLC-SizeInfo                     BitModeRLC-SizeInfo,
                    octetModeRLC-SizeInfoType1              OctetModeRLC-SizeInfoType1
                }                                                               OPTIONAL
            }
        }
    }

    CommonDynamicTF-Info-DynamicTTI ::= SEQUENCE {
        numberOfTransportBlocks                 NumberOfTransportBlocks,
        transmissionTimeInterval                TransmissionTimeInterval,
        commonTDD-Choice                        CHOICE {
            bitModeRLC-SizeInfo                     BitModeRLC-SizeInfo,
            octetModeRLC-SizeInfoType1              OctetModeRLC-SizeInfoType1
        }                                                                   OPTIONAL
    }

    CommonDynamicTF-InfoList ::=            SEQUENCE (SIZE (1..maxTF)) OF
                                                CommonDynamicTF-Info

    CommonDynamicTF-InfoList-DynamicTTI ::= SEQUENCE (SIZE (1..maxTF)) OF
                                                CommonDynamicTF-Info-DynamicTTI
```

```
CommonTransChTFS ::=              SEQUENCE {
    tti                              CHOICE {
        tti10                            CommonDynamicTF-InfoList,
        tti20                            CommonDynamicTF-InfoList,
        tti40                            CommonDynamicTF-InfoList,
        tti80                            CommonDynamicTF-InfoList,
        dynamic                          CommonDynamicTF-InfoList-DynamicTTI
    },
    semistaticTF-Information          SemistaticTF-Information
}

CPCH-SetID ::=                   INTEGER (1..maxCPCHsets)

CRC-Size ::=                     ENUMERATED {
                                     crc0, crc8, crc12, crc16, crc24 }


DedicatedDynamicTF-Info ::=      SEQUENCE {
    numberOfTransportBlocks          NumberOfTransportBlocks,
    rlc-Size                         CHOICE {
        bitMode                          BitModeRLC-SizeInfo,
        octetModeType1                   OctetModeRLC-SizeInfoType1
    }                                                            OPTIONAL
}


DedicatedDynamicTF-Info-DynamicTTI ::= SEQUENCE {
    numberOfTransportBlocks          NumberOfTransportBlocks,
    transmissionTimeInterval         TransmissionTimeInterval,
    rlc-Size                         CHOICE {
        bitMode                          BitModeRLC-SizeInfo,
        octetModeType1                   OctetModeRLC-SizeInfoType1
    }                                                            OPTIONAL
}

DedicatedDynamicTF-InfoList ::=   SEQUENCE (SIZE (1..maxTF)) OF
                                     DedicatedDynamicTF-Info


DedicatedDynamicTF-InfoList-DynamicTTI ::= SEQUENCE (SIZE (1..maxTF)) OF
                                     DedicatedDynamicTF-Info-DynamicTTI


DedicatedTransChTFS ::=          SEQUENCE {
    tti                              CHOICE {
        tti10                            DedicatedDynamicTF-InfoList,
        tti20                            DedicatedDynamicTF-InfoList,
        tti40                            DedicatedDynamicTF-InfoList,
        tti80                            DedicatedDynamicTF-InfoList,
        dynamic                          DedicatedDynamicTF-InfoList-DynamicTTI
    },
    semistaticTF-Information          SemistaticTF-Information
}



DL-AddReconfTransChInfo2List ::=  SEQUENCE (SIZE (1..maxTrCH)) OF
                                     DL-AddReconfTransChInformation2

DL-AddReconfTransChInfoList ::=   SEQUENCE (SIZE (1..maxTrCH)) OF
                                     DL-AddReconfTransChInformation


DL-AddReconfTransChInformation ::= SEQUENCE {
    dl-transportChannelIdentity      TransportChannelIdentity,
    tfs-SignallingMode               CHOICE {
        explicit                         TransportFormatSet,
        sameAsULTrCH                     TransportChannelIdentity
    },
    dch-QualityTarget                QualityTarget                 OPTIONAL,
    tm-SignallingInfo                TM-SignallingInfo             OPTIONAL
}


DL-AddReconfTransChInformation2 ::= SEQUENCE {
    transportChannelIdentity         TransportChannelIdentity,
    tfs-SignallingMode               CHOICE {
```

```
        explicit                         TransportFormatSet,
        sameAsULTrCH                     TransportChannelIdentity
    },
    qualityTarget              QualityTarget
}


DL-CommonTransChInfo ::=          SEQUENCE {
    sccpch-TFCS                      TFCS                         OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            tfcs-SignallingMode              CHOICE {
                explicit                         TFCS,
                sameAsUL                         NULL
            }                                                        OPTIONAL
        },
        tdd                              SEQUENCE {
            individualDL-CCTrCH-InfoList     IndividualDL-CCTrCH-InfoList
                                                                     OPTIONAL
        }
    }
}

DL-DeletedTransChInfoList ::=      SEQUENCE (SIZE (1..maxTrCH)) OF
                                 TransportChannelIdentity



DRAC-ClassIdentity ::=             INTEGER (1..maxDRACclasses)

DRAC-StaticInformation ::=         SEQUENCE {
    transmissionTimeValidity         TransmissionTimeValidity,
    timeDurationBeforeRetry          TimeDurationBeforeRetry,
    drac-ClassIdentity               DRAC-ClassIdentity
}

DRAC-StaticInformationList ::=     SEQUENCE (SIZE (1..maxTrCH)) OF
                                 DRAC-StaticInformation


ExplicitTFCS-Configuration ::=     CHOICE {
    complete                         TFCS-ReconfAdd,
    addition                         TFCS-ReconfAdd,
    removal                          TFCS-RemovalList,
    replacement                      SEQUENCE {
        tfcsRemoval                      TFCS-RemovalList,
        tfcsAdd                          TFCS-ReconfAdd
    }
}

GainFactor ::=                     INTEGER (0..15)

GainFactorInformation ::=          CHOICE {
    signalledGainFactors             SignalledGainFactors,
    computedGainFactors              ReferenceTFC-ID
}


IndividualDL-CCTrCH-Info ::=       SEQUENCE {
    dl-TFCS-Identity                 TFCS-Identity,
    tfcs-SignallingMode              CHOICE {
        explicit                         TFCS,
        sameAsUL                         TFCS-Identity
    }
}

IndividualDL-CCTrCH-InfoList ::=   SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                 IndividualDL-CCTrCH-Info

IndividualUL-CCTrCH-Info ::=       SEQUENCE {
    ul-TFCS-Identity                 TFCS-Identity,
    ul-TFCS                          TFCS
}


IndividualUL-CCTrCH-InfoList ::=   SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                 IndividualUL-CCTrCH-Info
```

```
MessType ::=                        ENUMERATED {
                                        transportFormatCombinationControl, spare1 }

Non-allowedTFC-List ::=             SEQUENCE (SIZE (1..maxTFC)) OF
                                        TFC-Value


NumberOfTransportBlocks::=          CHOICE {
    zero                                NULL,
    one                                 NULL,
    small                               INTEGER (2..17),
    long                                INTEGER (18..512)
}

OctetModeRLC-SizeInfoType1 ::=      CHOICE {
    sizeType1                           INTEGER (0..31),
    -- Actual size = (8 * sizeType1) + 16
    sizeType2                           SEQUENCE {
        part1                               INTEGER (0..23),
        part2                               INTEGER (1..3)                  OPTIONAL
        -- Actual size = (32 * part1) + 272 + (part2 * 8)
    },
    sizeType3                           SEQUENCE {
        part1                               INTEGER (0..61),
        part2                               INTEGER (1..7)                  OPTIONAL
        -- Actual size = (64 * part1) + 1040 + (part2 * 8)
    }
}

OctetModeRLC-SizeInfoType2 ::=      CHOICE {
    sizeType1                           INTEGER (0..31),
    -- Actual size = (sizeType1 * 8) + 48
    sizeType2                           INTEGER (0..63),
    -- Actual size = (sizeType2 * 16) + 312
    sizeType3                           INTEGER (0..56)
    -- Actual size = (sizeType3 *64) + 1384
}


PowerOffsetInformation ::=          SEQUENCE {
    gainFactorInformation               GainFactorInformation,
    -- PowerOffsetPp-m is always absent in TDD
    powerOffsetPp-m                     PowerOffsetPp-m                     OPTIONAL
}

PowerOffsetPp-m ::=                 INTEGER (-5..10)

PreDefTransChConfiguration ::=      SEQUENCE {
    ul-CommonTransChInfo                UL-CommonTransChInfo,
    ul-AddReconfTrChInfoList            UL-AddReconfTransChInfoList,
    dl-CommonTransChInfo                DL-CommonTransChInfo,
    dl-TrChInfoList                     DL-AddReconfTransChInfoList
}

QualityTarget ::=                   SEQUENCE {
    bler-QualityValue                   BLER-QualityValue
}
```

***   Next modified section   ***

11.3.7   Measurement information elements

```
Measurement-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

    CellIdentity
FROM UTRANMobility-IEs
```

```
    UTRAN-DRX-CycleLengthCoefficient
FROM UserEquipment-IEs

    RB-Identity
FROM RadioBearer-IEs

    TFCS-IdentityPlain,
    TransportChannelIdentity
FROM TransportChannel-IEs

    BurstType,
    CellParametersID,
    FrequencyInfo,
    MaxAllowedUL-TX-Power,
    PrimaryCCPCH-Info,
    PrimaryCCPCH-TX-Power,
    PrimaryCPICH-Info,
    PrimaryCPICH-TX-Power,
    TimeslotNumber,
    UL-TimingAdvance
FROM PhysicalChannel-IEs

    BSIC
FROM Other-IEs

    maxAdditionalMeas,
    maxCCTrCH,
    maxCellMeas,
    maxCellMeas-1,
    maxFreq,
    maxMeasEvent,
    maxMeasParEvent,
    maxOtherRAT,
    maxRB,
    maxRL,
    maxRL-1,
    maxSat,
    maxTrCH,
    maxTS
FROM Constant-definitions;

AcquisitionSatInfo ::=               SEQUENCE {
    satID                            SatID,
    doppler0thOrder                  INTEGER (-2048..2047),
    extraDopplerInfo                 ExtraDopplerInfo                OPTIONAL,
    codePhase                        INTEGER (0..1022),
    integerCodePhase                 INTEGER (0..19),
    gps-BitNumber                    INTEGER (0..3),
    codePhaseSearchWindow            CodePhaseSearchWindow,
    azimuthAndElevation              AzimuthAndElevation             OPTIONAL
}

AcquisitionSatInfoList ::=           SEQUENCE (SIZE (1..maxSat)) OF
                                         AcquisitionSatInfo

AdditionalAssistanceData ::=         OCTET STRING (SIZE (1..38))

AdditionalMeasurementID-List ::=     SEQUENCE (SIZE (1..maxAdditionalMeas)) OF
                                         MeasurementIdentityNumber


AlmanacSatInfo ::=                   SEQUENCE {
    satID                            SatID,
    e                                BIT STRING (SIZE (16)),
    t-oa                             BIT STRING (SIZE (8)),
    deltaI                           BIT STRING (SIZE (16)),
    omegaDot                         BIT STRING (SIZE (16)),
    satHealth                        BIT STRING (SIZE (8)),
    a-Sqrt                           BIT STRING (SIZE (24)),
    omega0                           BIT STRING (SIZE (24)),
    m0                               BIT STRING (SIZE (24)),
    omega                            BIT STRING (SIZE (24)),
    af0                              BIT STRING (SIZE (11)),
    af1                              BIT STRING (SIZE (11))
}

AlmanacSatInfoList ::=               SEQUENCE (SIZE (1..maxSat)) OF
                                         AlmanacSatInfo
```

```
AverageRLC-BufferPayload ::=          ENUMERATED {
                                          pla0, pla4, pla8, pla16, pla32,
                                          pla64, pla128, pla256, pla512,
                                          pla1024, pla2k, pla4k, pla8k, pla16k,
                                          pla32k, pla64k, pla128k, pla256k,
                                          pla512k, pla1024k }

AzimuthAndElevation ::=               SEQUENCE {
    azimuth                               INTEGER (0..31),
    elevation                             INTEGER (0..7)
}

BadSatList ::=                        SEQUENCE (SIZE (1..maxSat)) OF
                                          INTEGER (0..63)

BCCH-ARFCN ::=                        INTEGER (0..1023)

BLER-MeasurementResults ::=           SEQUENCE {
    transportChannelIdentity              TransportChannelIdentity,
    dl-TransportChannelBLER               DL-TransportChannelBLER         OPTIONAL
}

BLER-MeasurementResultsList ::=       SEQUENCE (SIZE (1..maxTrCH)) OF
                                          BLER-MeasurementResults

BLER-TransChIdList ::=                SEQUENCE (SIZE (1..maxTrCH)) OF
                                          TransportChannelIdentity


BSIC-VerificationRequired ::=         ENUMERATED {
                                          required, notRequired }


BurstModeParameters ::=               SEQUENCE {
    burstStart                            INTEGER (0..15),
    burstLength                           INTEGER (10..25),
    burstFreq                             INTEGER (1..16)
}



CellDCH-ReportCriteria ::=            CHOICE {
    intraFreqReportingCriteria            IntraFreqReportingCriteria,
    periodicalReportingCriteria           PeriodicalReportingCriteria
}

-- Actual value = IE value * 0.5
CellIndividualOffset ::=              INTEGER (-20..20)

CellInfo ::=                          SEQUENCE {
    cellIndividualOffset                  CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell         ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                      CHOICE {
        fdd                                   SEQUENCE {
            primaryCPICH-Info                     PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power                 PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator                     BOOLEAN,
            tx-DiversityIndicator                 BOOLEAN
        },
        tdd                                   SEQUENCE {
            primaryCCPCH-Info                     PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power                 PrimaryCCPCH-TX-Power       OPTIONAL,
            timeslotInfoList                      TimeslotInfoList            OPTIONAL
        }
    }
}


CellInfoSI-RSCP ::=                   SEQUENCE {
    cellIndividualOffset                  CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell         ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                      CHOICE {
        fdd                                   SEQUENCE {
            primaryCPICH-Info                     PrimaryCPICH-Info           OPTIONAL,
            primaryCPICH-TX-Power                 PrimaryCPICH-TX-Power       OPTIONAL,
            readSFN-Indicator                     BOOLEAN,
```

```
                tx-DiversityIndicator            BOOLEAN
        },
        tdd                              SEQUENCE {
            primaryCCPCH-Info                PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power            PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList                 TimeslotInfoList         OPTIONAL
        }
    },
    cellSelectionReselectionInfo     CellSelectReselectInfoSIB-11-12-RSCP     OPTIONAL
}

CellInfoSI-ECN0 ::=              SEQUENCE {
    cellIndividualOffset             CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell    ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            primaryCPICH-Info                PrimaryCPICH-Info        OPTIONAL,
            primaryCPICH-TX-Power            PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator                BOOLEAN,
            tx-DiversityIndicator            BOOLEAN
        },
        tdd                              SEQUENCE {
            primaryCCPCH-Info                PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power            PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList                 TimeslotInfoList         OPTIONAL
        }
    },
    cellSelectionReselectionInfo     CellSelectReselectInfoSIB-11-12-ECN0     OPTIONAL
}

CellInfoSI-HCS-RSCP ::=         SEQUENCE {
    cellIndividualOffset             CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell    ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            primaryCPICH-Info                PrimaryCPICH-Info        OPTIONAL,
            primaryCPICH-TX-Power            PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator                BOOLEAN,
            tx-DiversityIndicator            BOOLEAN
        },
        tdd                              SEQUENCE {
            primaryCCPCH-Info                PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power            PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList                 TimeslotInfoList         OPTIONAL
        }
    },
    cellSelectionReselectionInfo     CellSelectReselectInfoSIB-11-12-HCS-RSCP     OPTIONAL
}

CellInfoSI-HCS-ECN0 ::=         SEQUENCE {
    cellIndividualOffset             CellIndividualOffset            DEFAULT 0,
    referenceTimeDifferenceToCell    ReferenceTimeDifferenceToCell   OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            primaryCPICH-Info                PrimaryCPICH-Info        OPTIONAL,
            primaryCPICH-TX-Power            PrimaryCPICH-TX-Power    OPTIONAL,
            readSFN-Indicator                BOOLEAN,
            tx-DiversityIndicator            BOOLEAN
        },
        tdd                              SEQUENCE {
            primaryCCPCH-Info                PrimaryCCPCH-Info,
            primaryCCPCH-TX-Power            PrimaryCCPCH-TX-Power    OPTIONAL,
            timeslotInfoList                 TimeslotInfoList         OPTIONAL
        }
    },
    cellSelectionReselectionInfo     CellSelectReselectInfoSIB-11-12-HCS-ECN0     OPTIONAL
}

CellMeasuredResults ::=         SEQUENCE {
    cellIdentity                     CellIdentity                    OPTIONAL,
    sfn-SFN-ObsTimeDifference        SFN-SFN-ObsTimeDifference       OPTIONAL,
    cfn-SFN-ObsTimeDifference        CFN-SFN-ObsTimeDifference       OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            primaryCPICH-Info                PrimaryCPICH-Info,
            cpich-Ec-N0                      CPICH-Ec-N0              OPTIONAL,
            cpich-RSCP                       CPICH-RSCP              OPTIONAL,
            pathloss                         Pathloss               OPTIONAL
```

```
        },
        tdd                                 SEQUENCE {
            cellParametersID                    CellParametersID,
            primaryCCPCH-RSCP                   PrimaryCCPCH-RSCP           OPTIONAL,
            timeslotISCP-List                   TimeslotISCP-List          OPTIONAL
        }
    }
}

CellMeasurementEventResults ::=     CHOICE {
    fdd                                 SEQUENCE (SIZE (1..maxCellMeas)) OF
                                            PrimaryCPICH-Info,
    tdd                                 SEQUENCE (SIZE (1..maxCellMeas)) OF
                                            PrimaryCCPCH-Info
}

CellPosition ::=                    SEQUENCE {
    relativeNorth                       INTEGER (-32767..32767),
    relativeEast                        INTEGER (-32767..32767),
    relativeAltitude                    INTEGER (-4095..4095)
}


CellReportingQuantities ::=         SEQUENCE {
    sfn-SFN-OTD-Type                    SFN-SFN-OTD-Type,
    cellIdentity                        BOOLEAN,
    cfn-SFN-ObsTimeDifference           BOOLEAN,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            cpich-Ec-N0                         BOOLEAN,
            cpich-RSCP                          BOOLEAN,
            pathloss                            BOOLEAN
        },
        tdd                                 SEQUENCE {
            timeslotISCP                        BOOLEAN,
            primaryCCPCH-RSCP                   BOOLEAN,
            pathloss                            BOOLEAN
        }
    }
}


CellSelectReselectInfoSIB-11-12-RSCP ::=    SEQUENCE {
    q-OffsetS-N                         Q-OffsetS-N                 DEFAULT 0,
    maxAllowedUL-TX-Power               MaxAllowedUL-TX-Power           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            q-QualMin                           Q-QualMin               OPTIONAL,
            q-RxlevMin                          Q-RxlevMin              OPTIONAL
        },
        tdd                                 SEQUENCE {
            q-RxlevMin                          Q-RxlevMin              OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-ECN0 ::=    SEQUENCE {
    q-Offset1S-N                        Q-OffsetS-N                 DEFAULT 0,
    q-Offset2S-N                        Q-OffsetS-N                 DEFAULT 0,
    maxAllowedUL-TX-Power               MaxAllowedUL-TX-Power           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            q-QualMin                           Q-QualMin               OPTIONAL,
            q-RxlevMin                          Q-RxlevMin              OPTIONAL
        },
        tdd                                 SEQUENCE {
            q-RxlevMin                          Q-RxlevMin              OPTIONAL
        }
    }
}

CellSelectReselectInfoSIB-11-12-HCS-RSCP ::=    SEQUENCE {
    q-OffsetS-N                         Q-OffsetS-N                 DEFAULT 0,
    maxAllowedUL-TX-Power               MaxAllowedUL-TX-Power           OPTIONAL,
    hcs-NeighbouringCellInformation-RSCP        HCS-NeighbouringCellInformation-RSCP
    OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
```

```
            q-QualMin                        Q-QualMin                  OPTIONAL,
            q-RxlevMin                       Q-RxlevMin                 OPTIONAL
        },
        tdd                          SEQUENCE {
            q-RxlevMin                       Q-RxlevMin                 OPTIONAL
        }
    }
}
--???
CellSelectReselectInfoSIB-11-12-HCS-ECN0 ::=    SEQUENCE {
    q-Offset1S-N                     Q-OffsetS-N                        DEFAULT 0,
    q-Offset2S-N                     Q-OffsetS-N                        DEFAULT 0,
    maxAllowedUL-TX-Power            MaxAllowedUL-TX-Power              OPTIONAL,
    hcs-NeighbouringCellInformation-ECN0        HCS-NeighbouringCellInformation-ECN0
    OPTIONAL,
    modeSpecificInfo                 CHOICE {
        fdd                              SEQUENCE {
            q-QualMin                        Q-QualMin                  OPTIONAL,
            q-RxlevMin                       Q-RxlevMin                 OPTIONAL
        },
        tdd                              SEQUENCE {
            q-RxlevMin                       Q-RxlevMin                 OPTIONAL
        }
    }
}

CellToMeasure ::=                    SEQUENCE {
    sfn-sfn-Drift                        INTEGER (0..30)               OPTIONAL,
    primaryCPICH-Info                    PrimaryCPICH-Info,
    frequencyInfo                        FrequencyInfo                 OPTIONAL,
    sfn-SFN-ObservedTimeDifference       SFN-SFN-ObsTimeDifference1,
    fineSFN-SFN                          FineSFN-SFN,
    cellPosition                         CellPosition                 OPTIONAL
}

CellToMeasureInfoList ::=            SEQUENCE (SIZE (1..maxCellMeas)) OF
                                         CellToMeasure

CellToReport ::=                     SEQUENCE {
    frequency                            Frequency,
    bsic                                 BSIC
}

CellToReportList ::=                 SEQUENCE (SIZE (1..maxCellMeas)) OF
                                         CellToReport


CFN-SFN-ObsTimeDifference ::=        CHOICE {
    fdd-ChipDiff                         INTEGER (0..157286399),
    tdd-FrameDiff                        INTEGER (0..4095)
}

CodePhaseSearchWindow ::=            ENUMERATED {
                                         w1023, w1, w2, w3, w4, w6, w8,
                                         w12, w16, w24, w32, w48, w64,
                                         w96, w128, w192 }

CPICH-Ec-N0 ::=                      INTEGER (-20..0)

-- IE value 0 = <-24 dB, 1 = between -24 and -23 and so on
CPICH-Ec-N0-OTDOA ::=                INTEGER (0..26)

CPICH-RSCP ::=                       INTEGER (-115..-40)


DeltaPRC ::=                         INTEGER (-127..127)


DeltaRRC ::=                         INTEGER (-7..7)

DGPS-CorrectionSatInfo ::=           SEQUENCE {
    satID                                SatID,
    iode                                 BIT STRING (SIZE (8)),
    udre                                 UDRE,
    prc                                  PRC,
    rrc                                  RRC,
    deltaPRC2                            DeltaPRC,
    deltaRRC2                            DeltaRRC,
    deltaPRC3                            DeltaPRC,
```

```
    deltaRRC3                       DeltaRRC
}

DGPS-CorrectionSatInfoList ::=      SEQUENCE (SIZE (1..maxSat)) OF
                                       DGPS-CorrectionSatInfo

DGPS-Information ::=                SEQUENCE {
    satID                           SatID,
    iode                            IODE,
    udre                            UDRE,
    prc                             PRC,
    rrc                             RRC,
    deltaPRC2                       DeltaPRC,
    deltaRRC2                       DeltaRRC
}

DGPS-InformationList ::=            SEQUENCE (SIZE (1..maxSat)) OF
                                       DGPS-Information

DiffCorrectionStatus ::=            ENUMERATED {
                                       udre-1-0, udre-0-75, udre-0-5, udre-0-3,
                                       udre-0-2, udre-0-1, noData, invalidData }


-- Actual value = IE value * 0.02
DL-PhysicalChannelBER ::=           INTEGER (0..255)

-- Actual value = IE value * 0.02
DL-TransportChannelBLER ::=         INTEGER (0..63255)
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331 CR **556r1**   Current Version: 3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: **TSG-RAN # 10**   for approval **X**   strategic ☐ *(for SMG*
list expected approval meeting # here   For information ☐   non-strategic ☐ *use only)*
                     ↑

Form: CR cover sheet, version 2 for 3GPP and SMG   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:** 9-10-2000

Subject: Clarification of PDCP sequence number window terminology

Work item:

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
              A   Corresponds to a correction in an earlier release   ☐   Release 96   ☐
(only one category   B   Addition of feature   ☐   Release 97   ☐
shall be marked   C   Functional modification of feature   ☐   Release 98   ☐
with an X)   D   Editorial modification   ☐   Release 99   **X**
                                                                                                  Release 00   ☐

Reason for change: 25.331 has referred to IE Max PDCP SN whereas the 25.323 refers to PDCP SN window size. This terminology has been aligned and ASN1 has been updated.

Clauses affected: 2, 10.3.4.2, 11.3.4

Other specs affected: Other 3G core specifications   ☐   → List of CRs:
                         Other GSM core specifications   ☐   → List of CRs:
                         MS test specifications   ☐   → List of CRs:
                         BSS test specifications   ☐   → List of CRs:
                         O&M specifications   ☐   → List of CRs:

Other comments:

help.doc

<-------- double-click here for help and instructions on how to create a CR.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   3G TR 21.905: "Vocabulary for 3GPP Specifications".

[2]   3G TS 25.301: "Radio Interface Protocol Architecture".

[3]   3G TS 25.303: "Interlayer Procedures in Connected Mode".

[4]   3G TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".

[5]   3G TS 24.008: "Mobile radio interface layer 3 specification, Core Network Protocols - Stage 3".

[6]   3G TS 25.103: "RF Parameters in Support of RRM".

[7]   3G TS 25.215: "Physical layer – Measurements (FDD)".

[8]   3G TS 25.225: "Physical layer – Measurements (TDD)".

[9]   3G TS 25.401: "UTRAN overall description".

[10]   3G TS 25.402: "Synchronisation in UTRAN, stage 2".

[11]   3G TS 23.003: "Numbering, addressing and identification".

[12]   ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".

[13]   RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

[14]   3G TR 25.921: "Guidelines and Principles for protocol description and error handling".

[15]   3G TS 25.321: "MAC protocol specification".

[16]   3G TS 25.322: "RLC Protocol Specification".

[17]   3G TS 24.007: "Mobile radio interface signalling layer 3".

[18]   3G TS 25.305: "Stage 2 Functional Specification of Location Services in UTRAN".

[19]   3G TS 23.060: "General Packet Radio Service (GPRS), Service description, Stage 2"

10.3.4.2 PDCP info

The purpose of the PDCP info IE is to indicate which algorithms shall be established and to configure the parameters of each of the algorithms.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Support for lossless SRNS relocation	CV-*LosslessCriteria*		Boolean	TRUE means support
Max PDCP SN window size	CV *Lossless*		Integer (255, 65535)	Maximum PDCP sequence number window size. The handling of sequence number when the Max PDCP SN window size is 255 is specified in [19]. Default value is 65535.
PDCP PDU header	MD		Enumerated (present, absent)	Whether a PDCP PDU header is existent or not. Default value is "present"
Header compression information	OP	1 to <maxPDCPAlgoType>		
>CHOICE *algorithm type*	MP			7 spare values needed, criticality: reject
>>RFC2507				Header compression according to IETF standard RFC2507
>>>F_MAX_PERIOD	MD		Integer (1..65535)	Largest number of compressed non-TCP headers that may be sent without sending a full header. Default value is 256.
>>>F_MAX_TIME	MD		Integer (1..255)	Compressed headers may not be sent more than F_MAX_TIME seconds after sending last full header. Default value is 5.
>>>MAX_HEADER	MD		Integer (60..65535)	The largest header size in octets that may be compressed. Default value is 168.
>>>TCP_SPACE	MD		Integer (3..255)	Maximum CID value for TCP connections. Default value is 15.
>>>NON_TCP_SPACE	MD		Integer (3..65535)	Maximum CID value for non-TCP connections. Default value is 15.
>>>EXPECT_REORDERING	MD		Enumerated (reordering not expected, reordering expected)	Whether the algorithm shall reorder PDCP SDUs or not. Default value is "reordering not expected".

Condition	Explanation
LosslessCriteria	This IE is present only if the IE "RLC mode" is "Acknowledged" and the IE "In-sequence delivery " is "True".
Lossless	This IE shall be present if the IE "Support for lossless SRNS relocation" Is TRUE, otherwise it shall be absent.

## 11.3.4	Radio bearer information elements

```
RadioBearer-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

    CN-DomainIdentity,
    NAS-Synchronisation-Indicator,
    RAB-Identity
FROM CoreNetwork-IEs

    Re-EstablishmentTimer
FROM UserEquipment-IEs

    PreDefTransChConfiguration,
    TransportChannelIdentity
FROM TransportChannel-IEs

    PreDefPhyChConfiguration
FROM PhysicalChannel-IEs

    maxLoCHperRLC,
    maxPDCPAlgoType,
    maxRABsetup,
    maxRB,
    maxRBallRABs,
    maxRBMuxOptions,
    maxRBperRAB,
    maxSRBsetup
FROM Constant-definitions;


AlgorithmSpecificInfo ::=          CHOICE {
    rfc2507-Info                       RFC2507-Info,
    spare1                             NULL,
    spare2                             NULL,
    spare3                             NULL,
    spare4                             NULL,
    spare5                             NULL,
    spare6                             NULL,
    spare7                             NULL
}


-- Upper limit is 2^32 - 1
COUNT-C ::=                        INTEGER (0..4294967295)


-- Upper limit is 2^25 - 1
COUNT-C-MSB ::=                    INTEGER (0..33554431)


DL-AM-RLC-Mode ::=                SEQUENCE {
    inSequenceDelivery                BOOLEAN,
    receivingWindowSize               ReceivingWindowSize,
    dl-RLC-StatusInfo                 DL-RLC-StatusInfo
}


DL-LogicalChannelMapping ::=      SEQUENCE {
    -- TABULAR: DL-TransportChannelType contains TransportChannelIdentity as well.
    dl-TransportChannelType           DL-TransportChannelType,
    logicalChannelIdentity            LogicalChannelIdentity        OPTIONAL
}

DL-LogicalChannelMappingList ::=  SEQUENCE (SIZE (1..maxLoCHperRLC)) OF
                                      DL-LogicalChannelMapping


DL-RLC-Mode ::=                   CHOICE {
    dl-AM-RLC-Mode                    DL-AM-RLC-Mode,
    dl-UM-RLC-Mode                    NULL,
    dl-TM-RLC-Mode                    DL-TM-RLC-Mode,
    spare                             NULL
}
```

```
DL-RLC-StatusInfo ::=              SEQUENCE {
    timerStatusProhibit                TimerStatusProhibit                OPTIONAL,
    timerEPC                           TimerEPC                           OPTIONAL,
    missingPU-Indicator                BOOLEAN,
    timerStatusPeriodic                TimerStatusPeriodic                OPTIONAL
}


DL-TM-RLC-Mode ::=                 SEQUENCE {
    segmentationIndication             BOOLEAN
}


DL-TransportChannelType ::=        CHOICE {
    dch                                TransportChannelIdentity,
    fach                               NULL,
    dsch                               TransportChannelIdentity
}

ExpectReordering ::=               ENUMERATED {
                                       reorderingNotExpected,
                                       reorderingExpected }

ExplicitDiscard ::=                SEQUENCE {
    timerMRW                            TimerMRW,
    timerDiscard                       TimerDiscard,
    maxMRW                             MaxMRW
}

HeaderCompressionInfo ::=          SEQUENCE {
    algorithmSpecificInfo              AlgorithmSpecificInfo
}

HeaderCompressionInfoList ::=      SEQUENCE (SIZE (1..maxPDCPAlgoType)) OF
                                       HeaderCompressionInfo


LogicalChannelIdentity ::=         INTEGER (1..15)


LogicalChannelMaxLoss ::=          ENUMERATED {
                                       lcm0, lcm5, lcm10, lcm15, lcm20, lcm25,
                                       lcm30, lcm35, lcm40, lcm45, lcm50, lcm55,
                                       lcm60, lcm65, lcm70, lcm75, lcm80, lcm85,
                                       lcm90, lcm95, lcm100 }


LosslessSRNS-RelocSupport ::=      CHOICE {
    supported                          MaxPDCP-SN-WindowSize,
    notSupported                       NULL
}

MAC-LogicalChannelPriority ::=     INTEGER (1..8)

MaxDAT ::=                         ENUMERATED {
                                       dat1, dat2, dat3, dat4, dat5, dat6,
                                       dat7, dat8, dat9, dat10, dat15, dat20,
                                       dat25, dat30, dat35, dat40 }


MaxDAT-Retransmissions ::=         SEQUENCE {
    maxDAT                             MaxDAT,
    timerMRW                           TimerMRW,
    maxMRW                             MaxMRW
}

MaxMRW ::=                         ENUMERATED {
                                       mm1, mm4, mm6, mm8, mm12, mm16,
                                       mm24, mm32, spare1, spare2, spare3,
                                       spare4, spare5, spare6, spare7, spare8 }


MaxPDCP-SN-WindowSize ::=          ENUMERATED {
                                       sn255, sn65535 }

MaxRST ::=                         ENUMERATED {
                                       rst1, rst4, rst6, rst8, rst12,
                                       rst16, rst24, rst32,
```

```
                                        spare1, spare2, spare3, spare4,
                                        spare5, spare6, spare7, spare8 }


NoExplicitDiscard ::=               ENUMERATED {
                                        dt10, dt20, dt30, dt40, dt50,
                                        dt60, dt70, dt80, dt90, dt100 }


PDCP-Info ::=                       SEQUENCE {
    losslessSRNS-RelocSupport           LosslessSRNS-RelocSupport           OPTIONAL,
    pdcp-PDU-Header                     PDCP-PDU-Header,
    -- TABULAR: The IE above is MD in the tabular format and it can be encoded
    -- in one bit, so the OPTIONAL is removed for compactness.
    headerCompressionInfoList           HeaderCompressionInfoList           OPTIONAL
}

PDCP-InfoReconfig ::=               SEQUENCE {
    pdcp-Info                           PDCP-Info,
    pdcp-SN-Info                        PDCP-SN-Info
}

PDCP-PDU-Header ::=                 ENUMERATED {
                                        present, absent }

PDCP-SN-Info ::=                    INTEGER (0..65535)

Poll-PU ::=                         ENUMERATED {
                                        pu1, pu2, pu4, pu8, pu16,
                                        pu32, pu64, pu128,
                                        spare1, spare2, spare3, spare4,
                                        spare5, spare6, spare7, spare8 }

Poll-SDU ::=                        ENUMERATED {
                                        sdu1, sdu4, sdu16, sdu64,
                                        spare1, spare2, spare3, spare4 }

PollingInfo ::=                     SEQUENCE {
    timerPollProhibit                   TimerPollProhibit                   OPTIONAL,
    timerPoll                           TimerPoll                           OPTIONAL,
    poll-PU                             Poll-PU                             OPTIONAL,
    poll-SDU                            Poll-SDU                            OPTIONAL,
    lastTransmissionPU-Poll             BOOLEAN,
    lastRetransmissionPU-Poll           BOOLEAN,
    pollWindow                          PollWindow                          OPTIONAL,
    timerPollPeriodic                   TimerPollPeriodic                   OPTIONAL
}

PollWindow ::=                      ENUMERATED {
                                        pw50, pw60, pw70, pw80, pw85,
                                        pw90, pw95, pw99,
                                        spare1, spare2, spare3, spare4,
                                        spare5, spare6, spare7, spare8 }

PredefinedConfigIdentity ::=        INTEGER (0..15)

PredefinedConfigValueTag ::=        INTEGER (0..15)


PredefinedRB-Configuration ::=      SEQUENCE {
    srb-InformationList                 SRB-InformationSetupList,
    rb-InformationList                  RB-InformationSetupList
}


PreDefRadioConfiguration ::=        SEQUENCE {
    -- User equipment IEs
    re-EstablishmentTimer               Re-EstablishmentTimer,
    -- Radio bearer IEs
    predefinedRB-Configuration          PredefinedRB-Configuration,
    -- Transport channel IEs
    preDefTransChConfiguration          PreDefTransChConfiguration,
    -- Physical channel IEs
    preDefPhyChConfiguration            PreDefPhyChConfiguration
}


RAB-Info ::=                        SEQUENCE {
```

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```
    rab-Identity                    RAB-Identity,
    cn-DomainIdentity               CN-DomainIdentity,
    re-EstablishmentTimer           Re-EstablishmentTimer
}

RAB-InformationReconfigList ::=     SEQUENCE (SIZE (1.. maxRABsetup)) OF
                                        RAB-InformationReconfig

RAB-InformationReconfig ::=         SEQUENCE {
    rab-Identity                    RAB-Identity,
    nas-Synchronisation-Indicator   NAS-Synchronisation-Indicator
}


RAB-Info-Short ::=                  SEQUENCE {
    rab-Identity                    RAB-Identity,
    cn-DomainIdentity               CN-DomainIdentity
}


RAB-InformationSetup ::=            SEQUENCE {
    rab-Info                        RAB-Info,
    nas-Synchronisation-Indicator   NAS-Synchronisation-Indicator   OPTIONAL,
    rb-InformationSetupList         RB-InformationSetupList
}

RAB-InformationSetupList ::=        SEQUENCE (SIZE (1..maxRABsetup)) OF
                                        RAB-InformationSetup

RB-ActivationTimeInfo ::=           SEQUENCE {
    rb-Identity                     RB-Identity,
    rlc-SequenceNumber              RLC-SequenceNumber
}

RB-ActivationTimeInfoList ::=       SEQUENCE (SIZE (1..maxRB)) OF
                                        RB-ActivationTimeInfo


RB-COUNT-C-Information ::=          SEQUENCE {
    rb-Identity                     RB-Identity,
    count-C-UL                      COUNT-C,
    count-C-DL                      COUNT-C
}


RB-COUNT-C-InformationList ::=      SEQUENCE (SIZE (1..maxRBallRABs)) OF
                                        RB-COUNT-C-Information


RB-COUNT-C-MSB-Information ::=      SEQUENCE {
    rb-Identity                     RB-Identity,
    count-C-MSB-UL                  COUNT-C-MSB,
    count-C-MSB-DL                  COUNT-C-MSB
}


RB-COUNT-C-MSB-InformationList ::=  SEQUENCE (SIZE (1..maxRBallRABs)) OF
                                        RB-COUNT-C-MSB-Information

RB-Identity ::=                     INTEGER (0..31)


RB-IdentityList ::=                 SEQUENCE (SIZE (1..maxRB)) OF
                                        RB-Identity

RB-InformationAffected ::=          SEQUENCE {
    rb-Identity                     RB-Identity,
    rb-MappingInfo                  RB-MappingInfo
}

RB-InformationAffectedList ::=      SEQUENCE (SIZE (1..maxRB)) OF
                                        RB-InformationAffected


RB-InformationReconfig ::=          SEQUENCE {
    rb-Identity                     RB-Identity,
    pdcp-Info                       PDCP-InfoReconfig                   OPTIONAL,
    rlc-InfoChoice                  RLC-InfoChoice                      OPTIONAL,
```

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```
    rb-MappingInfo                  RB-MappingInfo                  OPTIONAL,
    rb-SuspendResume                RB-SuspendResume                OPTIONAL
}

RB-InformationReconfigList ::=      SEQUENCE (SIZE (1..maxRB)) OF
                                    RB-InformationReconfig

RB-InformationReleaseList ::=       SEQUENCE (SIZE (1..maxRB)) OF
                                    RB-Identity

RB-InformationSetup ::=             SEQUENCE {
    rb-Identity                     RB-Identity,
    pdcp-Info                       PDCP-Info                       OPTIONAL,
    rlc-Info                        RLC-Info,
    rb-MappingInfo                  RB-MappingInfo
}

RB-InformationSetupList ::=         SEQUENCE (SIZE (1..maxRBperRAB)) OF
                                    RB-InformationSetup

RB-MappingInfo ::=                  SEQUENCE (SIZE (1..maxRBMuxOptions)) OF
                                    RB-MappingOption


RB-MappingOption ::=                SEQUENCE {
    ul-LogicalChannelMappings       UL-LogicalChannelMappings       OPTIONAL,
    dl-LogicalChannelMappingList    DL-LogicalChannelMappingList    OPTIONAL
}

RB-SuspendResume ::=                ENUMERATED {
                                    suspend, resume }

RB-WithPDCP-Info ::=                SEQUENCE {
    rb-Identity                     RB-Identity,
    pdcp-SN-Info                    PDCP-SN-Info
}

RB-WithPDCP-InfoList ::=            SEQUENCE (SIZE (1..maxRBallRABs)) OF
                                    RB-WithPDCP-Info


ReceivingWindowSize ::=             ENUMERATED {
                                    rw1, rw8, rw16, rw32, rw64, rw128, rw256,
                                    rw512, rw768, rw1024, rw1536, rw2047,
                                    rw2560, rw3072, rw3584, rw4095 }

RFC2507-Info ::=                    SEQUENCE {
    f-MAX-PERIOD                    INTEGER (1..65535)              DEFAULT 256,
    f-MAX-TIME                      INTEGER (1..255)                DEFAULT 5,
    max-HEADER                      INTEGER (60..65535)             DEFAULT 168,
    tcp-SPACE                       INTEGER (3..255)                DEFAULT 15,
    non-TCP-SPACE                   INTEGER (3..65535)              DEFAULT 15,
    expectReordering                ExpectReordering
    -- TABULAR: The IE above has only two possible values, so using Optional or Default
    -- would be wasteful
}

RLC-Info ::=                        SEQUENCE {
    ul-RLC-Mode                     UL-RLC-Mode                     OPTIONAL,
    dl-RLC-Mode                     DL-RLC-Mode                     OPTIONAL
}

RLC-InfoChoice ::=                  CHOICE {
    rlc-Info                        RLC-Info,
    spare                           NULL
}

RLC-SequenceNumber ::=              INTEGER (0..4095)


SRB-InformationSetup ::=            SEQUENCE {
    rb-Identity                     RB-Identity                     OPTIONAL,
    -- The default value for the IE above is the smallest value not used yet.
    rlc-InfoChoice                  RLC-InfoChoice,
    rb-MappingInfo                  RB-MappingInfo
}
```

```
SRB-InformationSetupList ::=        SEQUENCE (SIZE (1..maxSRBsetup)) OF
                                        SRB-InformationSetup


SRB-InformationSetupList2 ::=       SEQUENCE (SIZE (3..4)) OF
                                        SRB-InformationSetup

TimerDiscard ::=                    ENUMERATED {
                                        td0-1, td0-25, td0-5, td0-75,
                                        td1, td1-25, td1-5, td1-75,
                                        td2, td2-5, td3, td3-5, td4,
                                        td4-5, td5, td7-5 }


TimerEPC ::=                        ENUMERATED {
                                        te50, te60, te70, te80, te90,
                                        te100, te120, te140, te160, te180,
                                        te200, te300, te400, te500, te700,
                                        te900, spare1, spare2, spare3,
                                        spare4, spare5, spare6, spare7,
                                        spare8, spare9, spare10, spare11,
                                        spare12, spare13, spare14, spare15,
                                        spare16 }


TimerMRW ::=                        ENUMERATED {
                                        te50, te60, te70, te80, te90, te100,
                                        te120, te140, te160, te180, te200,
                                        te300, te400, te500, te700, te900,
                                        spare1, spare2, spare3, spare4, spare5,
                                        spare6, spare7, spare8, spare9, spare10,
                                        spare11, spare12, spare13, spare14,
                                        spare15, spare16 }


TimerPoll ::=                       ENUMERATED {
                                        tp10, tp20, tp30, tp40, tp50,
                                        tp60, tp70, tp80, tp90, tp100,
                                        tp110, tp120, tp130, tp140, tp150,
                                        tp160, tp170, tp180, tp190, tp200,
                                        tp210, tp220, tp230, tp240, tp250,
                                        tp260, tp270, tp280, tp290, tp300,
                                        tp310, tp320, tp330, tp340, tp350,
                                        tp360, tp370, tp380, tp390, tp400,
                                        tp410, tp420, tp430, tp440, tp450,
                                        tp460, tp470, tp480, tp490, tp500,
                                        tp510, tp520, tp530, tp540, tp550,
                                        tp600, tp650, tp700, tp750, tp800,
                                        tp850, tp900, tp950, tp1000,

                                        spare1, spare2, spare3, spare4, spare5,
                                        spare6, spare7, spare8, spare9, spare10,
                                        spare11, spare12, spare13, spare14,
                                        spare15, spare16 }

TimerPollPeriodic ::=               ENUMERATED {
                                        tper100, tper200, tper300, tper400,
                                        tper500, tper750, tper1000, tper2000,
                                        spare1, spare2, spare3, spare4,
                                        spare5, spare6, spare7, spare8 }


TimerPollProhibit ::=               ENUMERATED {
                                        tpp10, tpp20, tpp30, tpp40, tpp50,
                                        tpp60, tpp70, tpp80, tpp90, tpp100,
                                        tpp110, tpp120, tpp130, tpp140, tpp150,
                                        tpp160, tpp170, tpp180, tpp190, tpp200,
                                        tpp210, tpp220, tpp230, tpp240, tpp250,
                                        tpp260, tpp270, tpp280, tpp290, tpp300,
                                        tpp310, tpp320, tpp330, tpp340, tpp350,
                                        tpp360, tpp370, tpp380, tpp390, tpp400,
                                        tpp410, tpp420, tpp430, tpp440, tpp450,
                                        tpp460, tpp470, tpp480, tpp490, tpp500,
                                        tpp510, tpp520, tpp530, tpp540, tpp550,
                                        tpp600, tpp650, tpp700, tpp750, tpp800,
                                        tpp850, tpp900, tpp950, tpp1000,
                                        spare1, spare2, spare3, spare4, spare5,
                                        spare6, spare7, spare8, spare9, spare10,
```

```
                                       spare11, spare12, spare13, spare14,
                                       spare15, spare16 }

TimerRST ::=                       ENUMERATED {
                                       tr50, tr100, tr150, tr200, tr250, tr300,
                                       tr350, tr400, tr450, tr500, tr550,
                                       tr600, tr700, tr800, tr900, tr1000,
                                       spare1, spare2, spare3, spare4, spare5,
                                       spare6, spare7, spare8, spare9, spare10,
                                       spare11, spare12, spare13, spare14,
                                       spare15, spare16 }

TimerStatusPeriodic ::=            ENUMERATED {
                                       tsp100, tsp200, tsp300, tsp400, tsp500,
                                       tsp750, tsp1000, tsp2000 }


TimerStatusProhibit ::=            ENUMERATED {
                                       tsp10,tsp20,tsp30,tsp40,tsp50,
                                       tsp60,tsp70,tsp80,tsp90,tsp100,
                                       tsp110,tsp120,tsp130,tsp140,tsp150,
                                       tsp160,tsp170,tsp180,tsp190,tsp200,
                                       tsp210,tsp220,tsp230,tsp240,tsp250,
                                       tsp260,tsp270,tsp280,tsp290,tsp300,
                                       tsp310,tsp320,tsp330,tsp340,tsp350,
                                       tsp360,tsp370,tsp380,tsp390,tsp400,
                                       tsp410,tsp420,tsp430,tsp440,tsp450,
                                       tsp460,tsp470,tsp480,tsp490,tsp500,
                                       tsp510,tsp520,tsp530,tsp540,tsp550,
                                       tsp600,tsp650,tsp700,tsp750,tsp800,
                                       tsp850,tsp900,tsp950,tsp1000,
                                       spare1, spare2, spare3, spare4, spare5,
                                       spare6, spare7, spare8, spare9, spare10,
                                       spare11, spare12, spare13, spare14,
                                       spare15, spare16 }


TransmissionRLC-Discard ::=       CHOICE {
    timerBasedExplicit                ExplicitDiscard,
    timerBasedNoExplicit              NoExplicitDiscard,
    maxDAT-Retransmissions            MaxDAT-Retransmissions,
    noDiscard                         MaxDAT
}


TransmissionWindowSize ::=        ENUMERATED {
                                      tw1, tw8, tw16, tw32, tw64, tw128, tw256,
                                      tw512, tw768, tw1024, tw1536, tw2047,
                                      tw2560, tw3072, tw3584, tw4095 }


UL-AM-RLC-Mode ::=                SEQUENCE {
    transmissionRLC-Discard           TransmissionRLC-Discard,
    transmissionWindowSize            TransmissionWindowSize,
    timerRST                          TimerRST,
    max-RST                           MaxRST,
    pollingInfo                       PollingInfo
}


UL-LogicalChannelMapping ::=      SEQUENCE {
    -- TABULAR: UL-TransportChannelType contains TransportChannelIdentity as well.
    ul-TransportChannelType           UL-TransportChannelType,
    logicalChannelIdentity            LogicalChannelIdentity              OPTIONAL,
    mac-LogicalChannelPriority        MAC-LogicalChannelPriority,
    logicalChannelMaxLoss             LogicalChannelMaxLoss               DEFAULT lcm0
}



UL-LogicalChannelMappingList ::=  SEQUENCE {
    rlc-LogicalChannelMappingIndicator BOOLEAN,
    ul-LogicalChannelMapping          SEQUENCE (SIZE (maxLoCHperRLC)) OF
                                      UL-LogicalChannelMapping
}

UL-LogicalChannelMappings ::=     CHOICE {
    oneLogicalChannel                 UL-LogicalChannelMapping,
```

```
    twoLogicalChannels              UL-LogicalChannelMappingList
}


UL-RLC-Mode ::=                     CHOICE {
    ul-AM-RLC-Mode                      UL-AM-RLC-Mode,
    ul-UM-RLC-Mode                      UL-UM-RLC-Mode,
    ul-TM-RLC-Mode                      UL-TM-RLC-Mode,
    spare                               NULL
}


UL-TM-RLC-Mode ::=                  SEQUENCE {
    transmissionRLC-Discard             TransmissionRLC-Discard         OPTIONAL,
    segmentationIndication              BOOLEAN
}

UL-UM-RLC-Mode ::=                  SEQUENCE {
    transmissionRLC-Discard             TransmissionRLC-Discard         OPTIONAL

}

UL-TransportChannelType ::=         CHOICE {
    dch                                 TransportChannelIdentity,
    rach                                NULL,
    cpch                                NULL,
    usch                                NULL
}

END
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331 CR **559r1**   Current Version: 3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   *↑ CR number as allocated by MCC support team*

For submission to: **TSG-RAN #10**   for approval **X**   strategic ☐ *(for SMG*
list expected approval meeting # here ↑   for information ☐   non-strategic ☐ *use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:** 11.10.2000

Subject: Clarification on error handling

Work item:

Category: F   Correction   **X**   **Release:**   Phase 2 ☐
             A   Corresponds to a correction in an earlier release   Release 96 ☐
(only one category   B   Addition of feature   Release 97 ☐
shall be marked   C   Functional modification of feature   Release 98 ☐
with an X)   D   Editorial modification   Release 99 **X**
                                                                              Release 00 ☐

Reason for change: The present text in two sections, 16.2 and 16.3, is in error situation forcing the UE to wait without processing anything before returning to "normal operation". Yet normal operation, or the "abnormal" operation have not been defined. A clarification is proposed to remove the notions of normal vs. abnormal operation and to allow the UE to process further messages even when an error situation has occurred.

Clauses affected: 16.2, 16.3

Other specs affected: Other 3G core specifications ☐   → List of CRs:
             Other GSM core specifications ☐   → List of CRs:
             MS test specifications ☐   → List of CRs:
             BSS test specifications ☐   → List of CRs:
             O&M specifications ☐   → List of CRs:

Other comments:

<--------- double-click here for help and instructions on how to create a CR.

16.2   ASN.1 violation or encoding error

If the UE receives a message on the DCCH for which the encoded message does not result in a valid abstract syntax value, it shall perform the following:

-    Set the variable PROTOCOL_ERROR_REJECT to TRUE.

-    Transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "ASN.1 violation or encoding error".

-    When the ~~transmission of the~~ RRC STATUS message has been ~~confirmed by~~sentsubmitted to ~~RLC~~lower layer, the UE RRC shall ~~resume normal~~continue operation as if the invalid message ~~has~~ had not been received.

If the UE receives a message on the BCCH, PCCH, CCCH or SHCCH for which the encoded message does not result in a valid abstract syntax value, it shall ignore the message.

16.3   Unknown or unforeseen message type

If a UE receives an RRC message on the DCCH with a message type reserved for future extension it shall:

-    Set the variable PROTOCOL_ERROR_REJECT to TRUE.

-    Transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "Message type non-existent or not implemented".

-    When the ~~transmission of the~~ RRC STATUS message has been ~~confirmed by~~sentsubmitted to ~~RLC~~lower layer, the UE RRC shall ~~resume normal~~continue operation as if the invalid message ~~has~~ had not been received.

If the UE receives a message on the BCCH, PCCH, CCCH or SHCCH with a message type reserved for future extension it shall ignore the message.

<div style="border:1px solid black">

CHANGE REQUEST

25.331 CR 560   Current Version: 3.4.1

For submission to:	TSG-RAN #10	for approval	X		strategic	
		for information			non-strategic	

</div>

Proposed change affects: (U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐

Source:	TSG-RAN WG2 **Date:** 10.10.2000
Subject:	Removal of compressed mode measurement purpose "other"
Work item:	

Category:	F	Correction	**X**	**Release:**	Phase 2	
	A	Corresponds to a correction in an earlier release			Release 96	
	B	Addition of feature			Release 97	
	C	Functional modification of feature			Release 98	
	D	Editorial modification			Release 99	**X**
					Release 00	

Reason for change:	The usage of the compressed mode measurement purpose "other" for GPS was rejected in RAN plenary #9. No other proposals to use this measurement purpose have so far been presented and since the usage of this measurement purpose is currently not specified clearly, it is proposed to remove it from 25.331 (and 25.302). A similar update has already earlier been proposed in RAN WG1. Additional purposes in later releases can be handled with extensions.

Clauses affected:	10.3.6.32, 11.3.6

Other specs affected:	Other 3G core specifications	**X**	→ List of CRs:	CR 074 to 25.302
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

10.3.6.32 DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern sequence		1 to <maxTGPS>		
> TGPSI	MP		TGPSI 10.3.6.80	
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be activated or deactivated.
>Transmission gap pattern sequence configuration parameters	OP			
>> TGMP	MP		Enumerated(TDD measurement, FDD measurement, GSM measurement, Other)	Transmission Gap pattern sequence Measurement Purpose.
>> TGPRC	MP		Integer (1..63, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>> TGCFN	MP		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>> TGSN	MP		Integer (0..14)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>TGL1	MP		Integer(1..14)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>> TGL2	MD		Integer (1..14)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(15..269, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gaps 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 (1..144)	The duration of transmission gap pattern 1.
>> TGPL2	MD		Integer (1..144)	The duration of transmission gap pattern 2. If omitted, then 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.
>>UL/DL mode	MP		Enumerated (UL only, DL only, UL/DL)	Defines whether only DL, only UL, or combined UL/DL compressed mode is used.
>> Downlink compressed mode method	CV DL		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>> Uplink compressed mode method	CV UL		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the compressed frames corresponding to the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)
>>DeltaSIRafter1	MP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the compressed frames corresponding to the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the compressed frames

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				corresponding to 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(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the compressed frames corresponding to the second transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.

Condition	Explanation
UL	This information element is only sent when the value of the "UL/DL mode" IE is "UL only" or "UL/DL".
DL	This information element is only sent when the value of the "UL/DL mode" IE is "DL only" or "UL/DL".

11.3.6   Physical channel information elements

```
TGCFN ::=                           INTEGER (0..255)


-- The value 270 represents "undefined" in the tabular description.
TGD ::=                             INTEGER (15..270)

TGL ::=                             INTEGER (1..14)


TGMP ::=                            ENUMERATED {
                                        tdd-Measurement, fdd-Measurement,
                                        gsm-Measurement, otherMP }


TGP-Sequence ::=                    SEQUENCE {
    tgpsi                               TGPSI,
    tgps-StatusFlag                     TGPS-StatusFlag,
    tgps-ConfigurationParams            TGPS-ConfigurationParams           OPTIONAL
}

TGP-SequenceList ::=                SEQUENCE (SIZE (1..maxTGPS)) OF
                                        TGP-Sequence


TGP-SequenceShort ::=               SEQUENCE {
    tgpsi                               TGPSI,
    tgps-StatusFlag                     TGPS-StatusFlag
}

TGPL ::=                            INTEGER (1..144)

-- TABULAR: The value 0 represents "infinity" in the tabular description.
TGPRC ::=                           INTEGER (0..63)


TGPS-ConfigurationParams ::=        SEQUENCE {
    tgmp                                TGMP,
    tgprc                               TGPRC,
    tgcfn                               TGCFN,
    tgsn                                TGSN,
    tgl1                                TGL,
    tgl2                                TGL                                OPTIONAL,
    tgd                                 TGD,
    tgpl1                               TGPL,
    tgpl2                               TGPL                               OPTIONAL,
    rpp                                 RPP,
    itp                                 ITP,
    ul-DL-Mode                          UL-DL-Mode,
    -- TABULAR: Compressed mode method is nested inside UL-DL-Mode
    dl-FrameType                        DL-FrameType,
    deltaSIR1                           DeltaSIR,
    deltaSIRAfter1                      DeltaSIR,
    deltaSIR2                           DeltaSIR                           OPTIONAL,
    deltaSIRAfter2                      DeltaSIR                           OPTIONAL
}


TGPS-StatusFlag ::=                 ENUMERATED {
                                        tgpsActive, tgpsInactive }

TGPSI ::=                           INTEGER (1..maxTGPS)

TGSN ::=                            INTEGER (0..14)
```

CHANGE REQUEST

25.331 CR **561**   Current Version: 3.4.1

For submission to: **TSG-RAN #10**   for approval [X]   strategic [ ]
for information [ ]   non-strategic [ ]

Proposed change affects: (U)SIM [ ]   ME [X]   UTRAN / Radio [X]   Core Network [ ]

Source:	TSG-RAN WG2	**Date:** 10.10.2000

Subject: Clarification of compressed mode measurement purpose 'GSM'

Work item:

Category:

			Release:	
F	Correction	[X]	Phase 2	[ ]
A	Corresponds to a correction in an earlier release	[ ]	Release 96	[ ]
B	Addition of feature	[ ]	Release 97	[ ]
C	Functional modification of feature	[ ]	Release 98	[ ]
D	Editorial modification	[ ]	Release 99	[X]
			Release 00	[ ]

Reason for change:
The measurement purpose 'GSM measurement' for which three simultaneous compressed mode configurations can be configured is too ambiguous and imprecise for measurement control tasks in the UE. According to the suggestion received from R4 in R2-001918, it is here proposed to introduce explicit GSM measurement purposes for the three different GSM related compressed mode transmission gap pattern sequences: 1)GSM carrier RSSI measurement, 2) Initial BSIC identification and 3) BSIC re-confirmation

Clauses affected: 10.3.6.32, 11.3.6

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:	CR 075 to TS 25.302
Other GSM core specifications	[ ]	→ List of CRs:	
MS test specifications	[ ]	→ List of CRs:	
BSS test specifications	[ ]	→ List of CRs:	
O&M specifications	[ ]	→ List of CRs:	

Other comments:
In addition to adding specific measurement purposes, further work will be needed to clarify how on the procedure level, that the UE shall determine which GSM TGPS it shall use for a inter-system measurement with given configuration parameters. It is proposed that this be clarified in R2#17.

10.3.6.32   DPCH compressed mode info

NOTE: Only for FDD.

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

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transmission gap pattern sequence		1 to <maxTGPS>		
> TGPSI	MP		TGPSI 10.3.6.80	
>TGPS Status Flag	MP		Enumerated(active, inactive)	This flag indicates the current status of the Transmission Gap Pattern Sequence, whether it shall be activated or deactivated.
>Transmission gap pattern sequence configuration parameters	OP			
>> TGMP	MP		Enumerated(TDD measurement, FDD measurement, GSM carrier RSSI measurement, GSM Initial BSIC identification, GSM BSIC re-confirmation GSM measurement, Other)	Transmission Gap pattern sequence Measurement Purpose.
>> TGPRC	MP		Integer (1..63, Infinity)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence.
>> TGCFN	MP		Integer (0..255)	Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence.
>> TGSN	MP		Integer (0..14)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>TGL1	MP		Integer(1..14)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots
>> TGL2	MD		Integer (1..14)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>>TGD	MP		Integer(15..269, undefined)	Transmission gap distance indicates the number of slots between starting slots of two consecutive transmission gaps 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 (1..144)	The duration of transmission gap pattern 1.
>> TGPL2	MD		Integer (1..144)	The duration of transmission gap pattern 2. If omitted, then 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.
>>UL/DL mode	MP		Enumerated (UL only, DL only, UL/DL)	Defines whether only DL, only UL, or combined UL/DL compressed mode is used.
>> Downlink compressed mode method	CV DL		Enumerated (puncturing, SF/2, higher layer scheduling)	Method for generating downlink compressed mode gap
>> Uplink compressed mode method	CV UL		Enumerated (SF/2, higher layer scheduling)	Method for generating uplink compressed mode gap
>>Downlink frame type	MP		Enumerated (A, B)	
>>DeltaSIR1	MP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the compressed frames corresponding to the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)
>>DeltaSIRafter1	MP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the compressed frames corresponding to the first transmission gap in the transmission gap pattern.
>>DeltaSIR2	OP		Real(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE during the compressed frames

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				corresponding to 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(0..3 by step of 0.1)	Delta in DL SIR target value to be set in the UE one frame after the compressed frames corresponding to the second transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1.

Condition	Explanation
UL	This information element is only sent when the value of the "UL/DL mode" IE is "UL only" or "UL/DL".
DL	This information element is only sent when the value of the "UL/DL mode" IE is "DL only" or "UL/DL".

11.3.6 Physical channel information elements

```
TGCFN ::=                           INTEGER (0..255)


-- The value 270 represents "undefined" in the tabular description.
TGD ::=                             INTEGER (15..270)

TGL ::=                             INTEGER (1..14)


TGMP ::=                            ENUMERATED {
                                        tdd-Measurement, fdd-Measurement,
                                                                    gsm-
                                        CarrierRSSIMeasurement, gsm-initialBSICIdentification,
                                        gsmBSICReconfirmation, otherMP }


TGP-Sequence ::=                    SEQUENCE {
    tgpsi                               TGPSI,
    tgps-StatusFlag                     TGPS-StatusFlag,
    tgps-ConfigurationParams            TGPS-ConfigurationParams        OPTIONAL
}

TGP-SequenceList ::=                SEQUENCE (SIZE (1..maxTGPS)) OF
                                        TGP-Sequence


TGP-SequenceShort ::=               SEQUENCE {
    tgpsi                               TGPSI,
    tgps-StatusFlag                     TGPS-StatusFlag
}

TGPL ::=                            INTEGER (1..144)

-- TABULAR: The value 0 represents "infinity" in the tabular description.
TGPRC ::=                           INTEGER (0..63)


TGPS-ConfigurationParams ::=        SEQUENCE {
    tgmp                                TGMP,
    tgprc                               TGPRC,
    tgcfn                               TGCFN,
    tgsn                                TGSN,
    tgl1                                TGL,
    tgl2                                TGL                             OPTIONAL,
    tgd                                 TGD,
    tgpl1                               TGPL,
    tgpl2                               TGPL                            OPTIONAL,
    rpp                                 RPP,
    itp                                 ITP,
    ul-DL-Mode                          UL-DL-Mode,
    -- TABULAR: Compressed mode method is nested inside UL-DL-Mode
    dl-FrameType                        DL-FrameType,
    deltaSIR1                           DeltaSIR,
    deltaSIRAfter1                      DeltaSIR,
    deltaSIR2                           DeltaSIR                        OPTIONAL,
    deltaSIRAfter2                      DeltaSIR                        OPTIONAL
}


TGPS-StatusFlag ::=                 ENUMERATED {
                                        tgpsActive, tgpsInactive }

TGPSI ::=                           INTEGER (1..maxTGPS)

TGSN ::=                            INTEGER (0..14)
```

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

	25.331	**CR**	**564r2**	Current Version:	**3.4.1**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑   ↑ *CR number as allocated by MCC support team*

For submission to: **TSG-RAN #10**   for approval   **X**   strategic   ☐   *(for SMG*
list expected approval meeting # here   for information   ☐   non-strategic   ☐   *use only)*
↑

Form: CR cover sheet, version 2 for 3GPP and SMG   The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects:
(at least one should be marked with an X)

(U)SIM ☐   ME **X**   UTRAN / Radio **X**   Core Network ☐

Source:	TSG-RAN WG2	**Date:**	14.11.2000

Subject:	Reporting multiple GSM cells

Work item:	

Category: F   Correction   **X**   **Release:**   Phase 2   ☐
            A   Corresponds to a correction in an earlier release   ☐   Release 96   ☐
(only one category   B   Addition of feature   ☐   Release 97   ☐
shall be marked   C   Functional modification of feature   ☐   Release 98   ☐
with an X)   D   Editorial modification   ☐   Release 99   **X**
                Release 00   ☐

| **Reason for change:** | Currently it is only possible to report the measured results of one cell per RAT in Inter-system measured results list. This has been corrected both in tabular and in ASN.1 so that <maxCellMeas> cells can be reported. The limit was chosen because it is in line with the inter-system cell identities used in Inter-system cell info list.

Changes to the first version of this CR: the ASN.1 definitions have been corrected. Also, the multiplicity value has been changed to be in line with the Reporting Cell Status information element. Also, the cell ID has been removed from the inter-system measured results list, since it's possible the cell ID cannot be reported without decoding the BSIC. |

Clauses affected: 10.3.7.26, 10.3.10, 11.3.7, 11.4

Other specs affected:	Other 3G core specifications		→ List of CRs:	
	Other GSM core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

10.3.7.26 Inter-system measured results list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Inter-system measurement results	OP	1 to <maxOtherRAT>		
>CHOICE system				At least one spare value, criticality = reject, required
>>GSM				
>>>Measured GSM cells	MP	1 to <maxReportedGSMCellsCellMeas>		
>>>>Inter-system cell ID	MP		Integer (0 .. <maxCellMeas> - 1)	
>>>>Frequency	MP			
>>>>GSM carrier RSSI	OP		bit string(6)	RXLEV GSM TS 05.08
>>>>Pathloss	OP		Integer(46..158)	In dB
>>>>BSIC	OP		BSIC 10.3.8.2	
>>>>Observed time difference to GSM cell	OP		Observed time difference to GSM cell 10.3.7.77	

10.3.10 Multiplicity values and type constraint values

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

Constant	Explanation	Value
CN information		
maxCNdomains	Maximum number of CN domains	4
maxSignallingFlow	Maximum number of flow identifiers	16
UTRAN mobility information		
maxRAT	Maximum number or Radio Access Technologies	maxOtherRAT + 1
maxOtherRAT	Maximum number or other Radio Access Technologies	15
maxURA	Maximum number of URAs in a cell	8
maxInterSysMessages	Maximum number of Inter System Messages	4
maxRABsetup	Maximum number of RABs to be established	16
UE information		
maxPDCPalgoType	Maximum number of PDCP algorithm types	8
maxDRACclasses	Maximum number of UE classes which would require different DRAC parameters	8
maxFrequencybands	Maximum number of frequency bands supported by the UE as defined in 25.102	4
maxPage1	Number of UEs paged in the Paging Type 1 message	8
maxSystemCapability	Maximum number of system specific capabilities that can be requested in one message.	16
RB information		
maxPredefConfig	Maximum number of predefined configurations	16
maxRB	Maximum number of RBs	32
maxSRBsetup	Maximum number of signalling RBs to be established	8
maxRBperRAB	Maximum number of RBs per RAB	8
maxRBallRABs	Maximum number of non signalling RBs	27
maxRBMuxOptions	Maximum number of RB multiplexing options	8
maxLoCHperRLC	Maximum number of logical channels per RLC entity	2
TrCH information		
maxTrCH	Maximum number of transport channels used in one direction (UL or DL)	32
maxTrCHpreconf	Maximum number of preconfigured Transport channels, per direction	16
maxCCTrCH	Maximum number of CCTrCHs	8
maxTF	Maximum number of different transport formats that can be included in the Transport format set for one transport channel	32
maxTF-CPCH	Maximum number of TFs in a CPCH set	16
maxTFC	Maximum number of Transport Format Combinations	1024
maxTFCI-1-Combs	Maximum number of TFCI (field 1) combinations	512
maxTFCI-2-Combs	Maximum number of TFCI (field 2) combinations	512
maxCPCHsets	Maximum number of CPCH sets per cell	16
maxSIBperMsg	Maximum number of complete system information blocks per SYSTEM INFORMATION message	16
maxSIB	Maximum number of references to other system information blocks.	32
maxSIB-FACH	Maximum number of references to system information blocks on the FACH	8
PhyCH information		
maxSubCh	Maximum number of sub-channels on PRACH	12
maxPCPCH-APsubCH	Maximum number of available sub-channels for AP signature on PCPCH	12
maxPCPCH-CDsubCH	Maximum number of available sub-channels for CD signature on PCPCH	12
maxSig	Maximum number of signatures on PRACH	16
maxPCPCH-APsig	Maximum number of available signatures for AP on PCPCH	16
maxPCPCH-CDsig	Maximum number of available signatures for CD on PCPCH	16
maxAC	Maximum number of access classes	16
maxASC	Maximum number of access service classes	8
maxASCmap	Maximum number of access class to access service classes mappings	7
maxASCpersist	Maximum number of access service classes for which persistence scaling factors are specified	6
maxPRACH	Maximum number of PRACHs in a cell	16
maxFACHPCH	Maximum number of FACHs and PCHs mapped onto one	8

	secondary CCPCHs	
maxRL	Maximum number of radio links	8
maxSCCPCH	Maximum number of secondary CCPCHs per cell	16
maxDPDCH-UL	Maximum number of DPDCHs per cell	6
maxDPCH-DLchan	Maximum number of channelisation codes used for DL DPCH	8
maxDPCHcodesPerTS	Maximum number of codes for one timeslots (TDD)	16
maxPUSCH	Maximum number of PUSCHs	(8)
maxPDSCH	Maximum number of PDSCHs	8
maxPDSCHcodes	Maximum number of codes for PDSCH	16
maxPDSCH-TFCIgroups	Maximum number of TFCI groups for PDSCH	256
maxPDSCHcodeGroups	Maximum number of code groups for PDSCH	256
maxPCPCHs	Maximum number of PCPCH channels in a CPCH Set	64
maxPCPCH-SF	Maximum number of available SFs on PCPCH	7
maxTS	Maximum number of timeslots used in one direction (UL or DL)	14
HiPUSCHIdentities	Maximum number of PDSCH Identities	64
HiPDSCHIdentities	Maximum number of PDSCH Identities	64
Measurement information		
maxTGPS	Maximum number of transmission gap pattern sequences	6
maxAdditionalMeas	Maximum number of additional measurements for a given measurement identity	4
maxMeasEvent	Maximum number of events that can be listed in measurement reporting criteria	8
maxMeasParEvent	Maximum number of measurement parameters (e.g. thresholds) per event	2
maxMeasIntervals	Maximum number of intervals that define the mapping function between the measurements for the cell quality Q of a cell and the representing quality value	1
maxCellMeas	Maximum number of cells to measure	32
maxFreq	Maximum number of frequencies to measure	8
maxReportedGSMCells	Maximum number of GSM cells to be reported	6
maxSat	Maximum number of satellites to measure	16
HiRM	Maximum number that could be set as rate matching attribute for a transport channel	256
Frequency information		
maxFDDFreqList	Maximum number of FDD carrier frequencies to be stored in USIM	4
maxTDDFreqList	Maximum number of TDD carrier frequencies to be stored in USIM	4
maxFDDFreqCellList	Maximum number of neighbouring FDD cells to be stored in USIM	32
maxTDDFreqCellList	Maximum number of neighbouring TDD cells to be stored in USIM	32
maxGSMCellList	Maximum number of GSM cells to be stored in USIM	32

11.3.7   Measurement information elements

```
GSM-MeasuredResults ::=              SEQUENCE {
    interSystemCellID                   InterSystemCellID,
    frequency                           Frequency,
    gsm-CarrierRSSI                     GSM-CarrierRSSI                OPTIONAL,
    pathloss                            Pathloss                      OPTIONAL,
    bsic                                BSIC                          OPTIONAL,
    observedTimeDifferenceToGSM         ObservedTimeDifferenceToGSM   OPTIONAL
}

GSM-MeasuredResultsList ::=          SEQUENCE (SIZE (1..maxReportedGSMCells)) OF
                                        GSM-MeasuredResults ———— SEQUENCE {
    interSystemCellID                   InterSystemCellID,
    frequency                           Frequency,
    gsm-CarrierRSSI                     GSM-CarrierRSSI                OPTIONAL,
    pathloss                            Pathloss                      OPTIONAL,
    bsic                                BSIC                          OPTIONAL,
    observedTimeDifferenceToGSM         ObservedTimeDifferenceToGSM    OPTIONAL
```

```
}

InterSystemMeasuredResults ::=        CHOICE {
    gsm                                   GSM-MeasuredResultsListSEQUENCE {
        frequency                             Frequency,
        gsm CarrierRSSI                       GSM CarrierRSSI            OPTIONAL,
        pathloss                              Pathloss                  OPTIONAL,
        bsic                                  BSIC                      OPTIONAL,
        observedTimeDifferenceToGSM           ObservedTimeDifferenceToGSM   OPTIONAL
    },
    spare                                 NULL
}
```

11.4   Constant definitions

```
Constant-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

hiPDSCHidentities        INTEGER ::= 64
hiPUSCHidentities        INTEGER ::= 64
hiRM                     INTEGER ::= 256
maxAC                    INTEGER ::= 16
maxAdditionalMeas        INTEGER ::= 4
maxASC                   INTEGER ::= 8
maxASCmap                INTEGER ::= 7
maxASCpersist            INTEGER ::= 6
maxCCTrCH                INTEGER ::= 8
maxCellMeas              INTEGER ::= 32
maxCellMeas-1                    INTEGER ::= 31

maxCNdomains             INTEGER ::= 4
maxCPCHsets              INTEGER ::= 16
maxDPCH-DLchan           INTEGER ::= 8
maxDPCHcodesPerTS        INTEGER ::= 16

-- **TODO**
maxDPDCH-UL              INTEGER ::= 6
maxDRACclasses           INTEGER ::= 8
-- **TODO**
maxFACH                  INTEGER ::= 8
maxFreq                  INTEGER ::= 8
maxFrequencybands        INTEGER ::= 4
maxInterSysMessages      INTEGER ::= 4
maxLoCHperRLC            INTEGER ::= 2
maxMeasEvent             INTEGER ::= 8
maxMeasIntervals         INTEGER ::= 3
maxMeasParEvent          INTEGER ::= 2
maxNoOfMeas              INTEGER ::= 16
maxOtherRAT              INTEGER ::= 15
maxPage1                 INTEGER ::= 8
maxPCPCH-APsig           INTEGER ::= 16
maxPCPCH-APsubCh         INTEGER ::= 12
maxPCPCH-CDsig           INTEGER ::= 16
maxPCPCH-CDsubCh         INTEGER ::= 12
maxPCPCH-SF              INTEGER ::= 7
maxPCPCHs                INTEGER ::= 64
maxPDCPAlgoType          INTEGER ::= 8
maxPDSCH                 INTEGER ::= 8
maxPDSCH-TFCIgroups      INTEGER ::= 256
maxPRACH                 INTEGER ::= 16
maxPredefConfig          INTEGER ::= 16
maxPUSCH                 INTEGER ::= 8
maxRABsetup              INTEGER ::= 16
maxRAT                   INTEGER ::= 16
maxRB                    INTEGER ::= 32
maxRBallRABs             INTEGER ::= 27
maxRBMuxOptions          INTEGER ::= 8
maxRBperRAB              INTEGER ::= 8
maxReportedGSMCells      INTEGER ::= 6
maxRL                    INTEGER ::= 8
maxRL-1                  INTEGER ::= 7
maxSat                   INTEGER ::= 16
maxSCCPCH                INTEGER ::= 16
maxSIB                   INTEGER ::= 32
```

```
-- **TODO**
maxSIB-FACH              INTEGER ::= 8
maxSIBperMsg             INTEGER ::= 16
maxSig                   INTEGER ::= 16
maxSignallingFlow        INTEGER ::= 16
maxSRBsetup              INTEGER ::= 8
maxSubCh                 INTEGER ::= 12
maxSystemCapability      INTEGER ::= 16
maxTF                    INTEGER ::= 32
maxTF-CPCH               INTEGER ::= 16
maxTFC                   INTEGER ::= 1024
maxTFCI-2-Combs          INTEGER ::= 512
maxTGPS                  INTEGER ::= 6
maxTrCH                  INTEGER ::= 32
maxTrCHpreconf           INTEGER ::= 16
maxTS                    INTEGER ::= 14
maxTS-1                  INTEGER ::= 13
maxURA                   INTEGER ::= 8

END
```

```
-- **TODO**
maxSIB-FACH              INTEGER ::= 8
maxSIBperMsg             INTEGER ::= 16
maxSig                   INTEGER ::= 16
maxSignallingFlow        INTEGER ::= 16
maxSRBsetup              INTEGER ::= 8
```