TSG-RAN Meeting #8
Düsseldorf, Germany, 21-23 June 2000

RP-000275

Title: **Agreed CRs to TS 25.225**

Source: **TSG-RAN WG1**

Agenda item: **5.1.3**

No.	Doc #	Spec	CR	Rev	Subject	Cat	Current_v	New_v
1	R1-000653	25.225	009	-	Clarifications on TxDiversity for UTRA TDD	F	3.2.0	3.3.0
2	R1-000724	25.225	010	-	Removal of Range/mapping	F	3.2.0	3.3.0
3	R1-000801	25.225	011	-	Removal of transport channel BLER	F	3.2.0	3.3.0

3GPP TSG RAN Meeting #8
Düsseldorf, Germany, 21-23 June 2000

Document *R1-00-0653*
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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25.225	CR	009	Current Version:	3.2.0

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

For submission to:	TSG RAN#8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

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 WG1 **Date:** 2000-05-12

Subject: Clarifications on TxDiversity for UTRA TDD

Work item:

Category: *(only one category shall be marked with an X)*

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:

- Clarification on measurements on midamble in case of STTD

Clauses affected: 5.1

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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5.1 UE measurement abilities

NOTE 1: Measurements for TDD which are specified on the Primary CCPCH (P-CCPCH) are carried out on the P-CCPCH or other physical channels with beacon function, see [6].

NOTE 2: For those channels providing beacon function [6], the received power measurements shall be ~~are~~ based on the sum of the received powers for midambles $m^{(1)}$ and $m^{(2)}$ if Block-STTD is applied to the P-CCPCH.

NOTE 3: The UTRAN has to take into account the UE capabilities when specifying the timeslots to be measured in the measurement control message.

NOTE 4: The RSCP can either be measured on the data part or the midamble of a burst, since there is no power offset between both. However, in order to have a common reference, the measurement on the midamble is assumed.

NOTE 5: The line 'applicable for' indicates whether the measurement is applicable for inter-frequency and/or intra-frequency and furthermore for idle and/or connected mode.

3GPP TSG RAN Meeting #8
Düsseldorf, Germany, 21-23 June 2000

Document *R1-00-0724*
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or for SMG, use the format P-99-xxx

CHANGE REQUEST

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25.225	CR	010	Current Version:	3.2.0

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

For submission to:	TSG RAN #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

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 WG1 **Date:** 22.05.2000

Subject: Removal of Range/mapping

Work item:

Category: *(only one category shall be marked with an X)*

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:

- In last RAN#7 meeting it was agreed to remove range/mapping from 25.215 and 25.225 and to add WG4's document. This CR is proposing to remove range/mapping from 25.215 and 25.225.

Clauses affected: 5.1, 5.2

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:


help.doc

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

5 Measurement abilities for UTRA TDD

In this clause the physical layer measurements reported to higher layers. (this may also include UE internal measurements not reported over the air-interface) are defined.

5.1 UE measurement abilities

NOTE 1: Measurements for TDD which are specified on the Primary CCPCH (P-CCPCH) are carried out on the P-CCPCH or other physical channels with beacon function, see [6].

NOTE 2: For those channels providing beacon function [6], the received power measurements are based on the sum of the received powers for midambles $m^{(1)}$ and $m^{(2)}$.

NOTE 3: The UTRAN has to take into account the UE capabilities when specifying the timeslots to be measured in the measurement control message.

NOTE 4: The RSCP can either be measured on the data part or the midamble of a burst, since there is no power offset between both. However, in order to have a common reference, the measurement on the midamble is assumed.

NOTE 5: The line 'applicable for' indicates whether the measurement is applicable for inter-frequency and/or intra-frequency and furthermore for idle and/or connected mode.

5.1.1 P-CCPCH RSCP

Definition	Received Signal Code Power, the received power on P-CCPCH of own or neighbour cell. The reference point for the RSCP is the antenna connector at the UE.
Applicable for	idle mode, connected mode (intra-frequency & inter-frequency)
~~**Range/mapping**~~	~~P-CCPCH RSCP is given with a resolution of 1 dB with the range [-115, ..., -25] dBm.~~ ~~P-CCPCH RSCP shall be reported in the unit P-CCPCH_RSCP_LEV where:~~ ~~P-CCPCH_RSCP_LEV_00: P-CCPCH_RSCP < -115dBm~~ ~~P-CCPCH_RSCP_LEV_01: -115dBm ≤ P-CCPCH_RSCP < -114dBm~~ ~~P-CCPCH_RSCP_LEV_02: -114dBm ≤ P-CCPCH_RSCP < -113dBm~~ ~~...~~ ~~P-CCPCH_RSCP_LEV_89: -27dBm ≤ P-CCPCH_RSCP < -26dBm~~ ~~P-CCPCH_RSCP_LEV_90: -26dBm ≤ P-CCPCH_RSCP < -25dBm~~ ~~P-CCPCH_RSCP_LEV_91: -25dBm ≤ P-CCPCH_RSCP~~

5.1.2 CPICH RSCP

Definition	Received Signal Code Power, the received power on one code measured on the Primary CPICH. The reference point for the RSCP is the antenna connector at the UE. (This measurement is used in TDD for monitoring FDD cells while camping on a TDD cell). If Tx diversity is applied on the Primary CPICH the received code power from each antenna shall be separately measured and summed together in [W] to a total received code power on the Primary CPICH.
Applicable for	idle mode, connected mode (inter-frequency)
~~**Range/mapping**~~	~~CPICH RSCP is given with a resolution of 1 dB with the range [-115, ..., -25] dBm.~~ ~~CPICH RSCP shall be reported in the unit CPICH_RSCP_LEV where:~~ ~~CPICH_RSCP_LEV_00: CPICH_RSCP < -115dBm~~ ~~CPICH_RSCP_LEV_01: -115dBm ≤ CPICH_RSCP < -114dBm~~ ~~CPICH_RSCP_LEV_02: -114dBm ≤ CPICH_RSCP < -113dBm~~ ~~...~~ ~~CPICH_RSCP_LEV_89: -27dBm ≤ CPICH_RSCP < -26dBm~~ ~~CPICH_RSCP_LEV_90: -26dBm ≤ CPICH_RSCP < -25dBm~~ ~~CPICH_RSCP_LEV_91: -25dBm ≤ CPICH_RSCP~~

5.1.3 Timeslot ISCP

Definition	Interference Signal Code Power, the interference on the received signal in a specified timeslot. Only this part of the interference that is not eliminated by the receiver shall be included in the measurement. The reference point for the ISCP is the antenna connector at the UE.
Applicable for	connected mode (intra-frequency).
~~Range/mapping~~	~~Timeslot ISCP is given with a resolution of 1 dB with the range [-115, ..., -25] dBm.~~ ~~Timeslot ISCP shall be reported in the unit UE_TS_ISCP_LEV where:~~ ~~UE_TS_ISCP_LEV_00: Timeslot_ISCP < -115dBm~~ ~~UE_TS_ISCP_LEV_01: -115dBm ≤ Timeslot_ISCP < -114dBm~~ ~~UE_TS_ISCP_LEV_02: -114dBm ≤ Timeslot_ISCP < -113dBm~~ ~~...~~ ~~UE_TS_ISCP_LEV_89: -27dBm ≤ Timeslot_ISCP < -26dBm~~ ~~UE_TS_ISCP_LEV_90: -26dBm ≤ Timeslot_ISCP < -25dBm~~ ~~UE_TS_ISCP_LEV_91: -25dBm ≤ Timeslot_ISCP~~

5.1.4 UTRA carrier RSSI

Definition	Received Signal Strength Indicator, the wide-band received power within the relevant channel bandwidth in a specified timeslot. Measurement shall be performed on a UTRAN DL carrier. The reference point for the RSSI is the antenna connector at the UE.
Applicable for	idle mode, connected mode (intra- & inter-frequency)
~~Range/mapping~~	~~UTRA carrier RSSI is given with a resolution of 1 dB with the range [-94, ..., -32] dBm.~~ ~~UTRA carrier RSSI shall be reported in the unit UTRA_carrier_RSSI_LEV where:~~ ~~UTRA_carrier_RSSI_LEV_00: UTRA_carrier_RSSI < -94dBm~~ ~~UTRA_carrier_RSSI_LEV_01: -94dBm ≤ UTRA_carrier_RSSI < -93dBm~~ ~~UTRA_carrier_RSSI_LEV_02: -93dBm ≤ UTRA_carrier_RSSI < -92dBm~~ ~~...~~ ~~UTRA_carrier_RSSI_LEV_61: -34dBm ≤ UTRA_carrier_RSSI < -33dBm~~ ~~UTRA_carrier_RSSI_LEV_62: -33dBm ≤ UTRA_carrier_RSSI < -32dBm~~ ~~UTRA_carrier_RSSI_LEV_63: -32dBm ≤ UTRA_carrier_RSSI~~

5.1.5 GSM carrier RSSI

Definition	Received Signal Strength Indicator, the wide-band received power within the relevant channel bandwidth in a specified timeslot. Measurement shall be performed on a GSM BCCH carrier. The reference point for the RSSI is the antenna connector at the UE.
Applicable for	idle mode, connected mode (inter-frequency)
~~Range/mapping~~	~~According to the definition of RXLEV in GSM 05.08.~~

5.1.6 SIR

Definition	Signal to Interference Ratio, defined as: (RSCP/ISCP)xSF. Where: RSCP = Received Signal Code Power, the received power on the code of a specified DPCH or PDSCH. ISCP = Interference Signal Code Power, the interference on the received signal in the same timeslot which can't be eliminated by the receiver. SF = The used spreading factor. The reference point for the SIR is the antenna connector of the UE.
Applicable for	connected mode (intra-frequency)
~~Range/mapping~~	~~SIR is given with a resolution of 0.5 dB with the range [-11, ..., 20] dB.~~ ~~SIR shall be reported in the unit UE_SIR where:~~ ~~UE_SIR_00: SIR < -11.0dB~~ ~~UE_SIR_01: -11.0dB ≤ SIR < -10.5dB~~ ~~UE_SIR_02: -10.5dB ≤ SIR < -10.0dB~~ ~~....~~ ~~UE_SIR_61: 19.0dB ≤ SIR < 19.5dB~~ ~~UE_SIR_62: 19.5dB ≤ SIR < 20.0dB~~ ~~UE_SIR_63: 20.0dB ≤ SIR~~

5.1.7 CPICH Ec/No

Definition	The received energy per chip divided by the power density in the band. The Ec/No is identical to RSCP/RSSI. Measurement shall be performed on the Primary CPICH. The reference point for Ec/No is the antenna connector at the UE. (This measurement is used in TDD for monitoring FDD cells while camping on a TDD cell) If Tx diversity is applied on the Primary CPICH the received energy per chip (Ec) from each antenna shall be separately measured and summed together in [Ws] to a total received chip energy per chip on the Primary CPICH, before calculating the Ec/No.
Applicable for	idle mode, connected mode (inter-frequency)
~~Range/mapping~~	~~CPICH Ec/No is given with a resolution of 1 dB with the range [-24, ..., 0] dB.~~ ~~CPICH Ec/No shall be reported in the unit CPICH_Ec/No where:~~ ~~CPICH_Ec/No_00: CPICH_Ec/No < -24dB~~ ~~CPICH_Ec/No_01: -24dB ≤ CPICH_Ec/No < -23dB~~ ~~CPICH_Ec/No_02: -23dB ≤ CPICH_Ec/No < -22dB~~ ~~...~~ ~~CPICH_Ec/No_23: -2dB ≤ CPICH_Ec/No < -1dB~~ ~~CPICH_Ec/No_24: -1dB ≤ CPICH_Ec/No < 0dB~~ ~~CPICH_Ec/No_25: 0dB ≤ CPICH_Ec/No~~

5.1.8 Transport channel BLER

Definition	Estimation of the transport channel block error rate (BLER). The BLER estimation shall be based on evaluating the CRC on each transport block.
Applicable for	connected mode (intra-frequency)
~~Range/mapping~~	~~Transport channel BLER is given with a logarithmic resolution of 0.065 with the range [10^-4.03 ... 1] including a separate case Transport channel BLER=0.~~ ~~Transport channel BLER shall be reported in the unit BLER_LOG, where:~~ ~~BLER_LOG_00: BLER = 0~~ ~~BLER_LOG_01: -∞ < Log10(Transport channel BLER) < -4.030~~ ~~BLER_LOG_02: -4.030 ≤ Log10(Transport channel BLER) < -3.965~~ ~~BLER_LOG_03: -3.965 ≤ Log10(Transport channel BLER) < -3.900~~ ~~...~~ ~~BLER_LOG_61: -0.195 ≤ Log10(Transport channel BLER) < -0.130~~ ~~BLER_LOG_62: -0.130 ≤ Log10(Transport channel BLER) < -0.065~~ ~~BLER_LOG_63: -0.065 ≤ Log10(Transport channel BLER) ≤ 0.000~~

5.1.9 UE transmitted power

Definition	The total UE transmitted power on one carrier measured in a timeslot. The reference point for the UE transmitted power shall be the UE antenna connector.
Applicable for	connected mode (intra-frequency).
~~**Range/mapping**~~	~~UE transmitted power is given with a resolution of 1dB with the range [-50, ..., 33] dBm.~~ ~~UE transmitted power shall be reported in the unit UE_TX_POWER, where:~~ ~~UE_TX_POWER_000 to UE_TX_POWER_020: reserved~~ ~~UE_TX_POWER_021: -50dBm ≤ UE_transmitted_power < -49dBm~~ ~~UE_TX_POWER_022: -49dBm ≤ UE_transmitted_power < -48dBm~~ ~~UE_TX_POWER_023: -48dBm ≤ UE_transmitted_power < -47dBm~~ ~~...~~ ~~UE_TX_POWER_102: 31dBm ≤ UE_transmitted_power < 32dBm~~ ~~UE_TX_POWER_103: 32dBm ≤ UE_transmitted_power < 33dBm~~ ~~UE_TX_POWER_104: 33dBm ≤ UE_transmitted_power < 34dBm~~

5.1.10 SFN-SFN observed time difference

Definition	SFN-SFN observed time difference is the time difference of the reception times of frames from two cells (serving and target) measured in the UE and expressed in chips. It is distinguished in two types. Type 2 applies if the serving and the target cell have the same frame timing. **Type 1:** SFN-SFN observed time difference = OFF×38400+ T_m in chips, where: T_m= T_{RxSFNi} - T_{RxSFNk}, given in chip units with the range [0, 1, …, 38399] chips T_{RxSFNi} : time of start of the received frame SFN_i of the serving TDD cell i. T_{RxSFNk} : time of start of the received frame SFN_k of the target UTRA cell k received most recent in time before the time instant T_{RxSFNi} in the UE. If this frame SFN_k of the target UTRA cell is received exactly at T_{RxSFNi} then T_{RxSFNk}= T_{RxSFNi} (which leads to T_m=0). OFF=(SFN_i- SFN_k) mod 256, given in number of frames with the range [0, 1, …, 255] frames SFNi : system frame number for downlink frame from serving TDD cell i in the UE at the time T_{RxSFNi}. SFNk : system frame number for downlink frame from target UTRA cell k received in the UE at the time T_{RxSFNk}.(for FDD: the P-CCPCH frame) **Type 2:** SFN-SFN observed time difference = T_{RxTSk} - T_{RxTSi}, in chips, where T_{RxTSi} : time of start of a timeslot received of the serving TDD cell i. T_{RxTSk} : time of start of a timeslot received from the target UTRA cell k that is closest in time to the start of the timeslot of the serving TDD cell i.
Applicable for	idle mode, connected mode (intra-frequency), connected mode (inter-frequency)
~~**Range/mapping**~~	~~**Type 1:**~~ ~~SFN-SFN observed time difference is given with a resolution of 1 chip with the range [0; 9830400) chips (24 bits).~~ ~~SFN-SFN observed time difference shall be reported in the unit T1_SFN-SFN_TIME, where T1_SFN-SFN_TIME_N:~~ ~~N* 1 chip ≤ SFN-SFN observed time difference < (N+1)* 1 chip~~ ~~With N= 0, 1, 2, ..., 9830399~~ ~~**Type 2:**~~ ~~SFN-SFN observed time difference is given with a resolution of 0.25 chip with the range (-1280; 1280] chips (14 bits).~~ ~~SFN-SFN observed time difference shall be reported in the unit T2_SFN-SFN_TIME, where T2_SFN-SFN_TIME_N:~~ ~~N* 0.25 chip –1280 chips < SFN-SFN observed time difference ≤ (N+1)* 0.25 chip –1280 chips~~ ~~With N= 0, 1, 2, ..., 10239~~

5.1.11 Observed time difference to GSM cell

Definition	Observed time difference to GSM cell is the time difference T_m in ms, where $T_m = T_{RxGSMk} - T_{RxSFN0i}$ $T_{RxSFN0i}$: time of start of the received frame SFN=0 of the serving TDD cell i $T_{RxGSMk.}$: time of start of the GSM BCCH 51-multiframe of the considered target GSM frequency k received closest in time after the time $T_{RxSFN0i.}$ If the next GSM BCCH 51-multiframe is received exactly at $T_{RxSFN0i}$ then $T_{RxGSMk} = T_{RxSFN0i}$ (which leads to T_m=0). The beginning of the GSM BCCH 51-multiframe is defined as the beginning of the first tail bit of the frequency correction burst in the first TDMA-frame of the GSM BCCH 51-multiframe, i.e. the TDMA-frame following the IDLE-frame.
Applicable for	Idle mode, connected mode (inter-frequency)
~~**Range/mapping**~~	~~Observed time difference to GSM cell is given with a resolution of 3060ms/(13*4096) (12 bit) with the range [0, 3060/13) ms.~~ ~~Observed time difference to GSM cell shall be reported in the unit GSM_TIME, where GSM_TIME_N:~~ ~~N* 3060ms/(13*4096) ≤ Observed time difference to GSM cell < (N+1)* 3060ms/(13*4096)~~ ~~With N= 0, 1, 2, ..., 4095~~

5.2 UTRAN measurement abilities

NOTE 1: If the UTRAN supports multiple frequency bands then the measurements apply for each frequency band individually.

NOTE 2: The RSCP can either be measured on the data part or the midamble of a burst, since there is no power offset between both. However, in order to have a common reference, the measurement on the midamble is assumed.

5.2.1 RSCP

Definition	Received Signal Code Power, the received power on one DPCH, PRACH or PUSCH code. The reference point for the RSCP shall be the antenna connector.
~~**Range/mapping**~~	~~RSCP is given with a resolution of 0.5 dB with the range [-120, ..., -80] dBm.~~ ~~RSCP shall be reported in the unit RSCP_LEV where:~~ ~~RSCP_LEV_00: RSCP < -120.0dBm~~ ~~RSCP_LEV_01: -120.0dBm ≤ RSCP < -119.5dBm~~ ~~RSCP_LEV_02: -119.5dBm ≤ RSCP < -119.0dBm~~ ~~...~~ ~~RSCP_LEV_79: -81.0dBm ≤ RSCP < -80.5dBm~~ ~~RSCP_LEV_80: -80.5dBm ≤ RSCP < -80.0dBm~~ ~~RSCP_LEV_81: -80.0dBm ≤ RSCP~~

5.2.2 Timeslot ISCP

Definition	Interference Signal Code Power, the interference on the received signal in a specified timeslot. Only this part of the interference that is not eliminated by the receiver shall be included in the measurement. The reference point for the ISCP shall be the antenna connector.
~~**Range/mapping**~~	~~Timeslot ISCP is given with a resolution of 0.5 dB with the range [-120, ..., -80] dBm.~~ ~~Timeslot ISCP shall be reported in the unit UTRAN_TS_ISCP_LEV where:~~ ~~UTRAN_TS_ISCP_LEV_00: Timeslot_ISCP < -120.0dBm~~ ~~UTRAN_TS_ISCP_LEV_01: -120.0dBm ≤ Timeslot_ISCP < -119.5dBm~~ ~~UTRAN_TS_ISCP_LEV_02: -119.5dBm ≤ Timeslot_ISCP < -119.0dBm~~ ~~...~~ ~~UTRAN_TS_ISCP_LEV_79: -81.0dBm ≤ Timeslot_ISCP < -80.5dBm~~ ~~UTRAN_TS_ISCP_LEV_80: -80.5dBm ≤ Timeslot_ISCP < -80.0dBm~~ ~~UTRAN_TS_ISCP_LEV_81: -80.0dBm ≤ Timeslot_ISCP~~

5.2.3 RSSI

Definition	Received Signal Strength Indicator, the wide-band received power within the UTRAN UL carrier channel bandwidth in a specified timeslot. The reference point for the RSSI shall be the antenna connector.
~~**Range/mapping**~~	~~RSSI is given with a resolution of 0.1dB with the range [-112, ..., -50] dBm.~~ ~~RSSI shall be reported in the unit RSSI_LEV, where:~~ ~~RSSI_LEV_000: RSSI < -112.0dBm~~ ~~RSSI_LEV_001: -112.0dBm ≤ RSSI < -111.9dBm~~ ~~RSSI_LEV_002: -111.9dBm ≤ RSSI < -111.8dBm~~ ~~...~~ ~~RSSI_LEV_619: -50.2dBm ≤ RSSI < -50.1dBm~~ ~~RSSI_LEV_620: -50.1dBm ≤ RSSI < -50.0dBm~~ ~~RSSI_LEV_621: -50.0dBm ≤ RSSI~~

5.2.4 SIR

Definition	Signal to Interference Ratio, defined as: (RSCP/ISCP)xSF. Where: RSCP = Received Signal Code Power, the received power on the code of a specified DPCH, PRACH or PUSCH. ISCP = Interference Signal Code Power, the interference on the received signal in the same timeslot which can't be eliminated by the receiver. SF = The used spreading factor. The reference point for the SIR shall be the antenna connector.
~~**Range/mapping**~~	~~SIR is given with a resolution of 0.5 dB with the range [-11, ..., 20] dB.~~ ~~SIR shall be reported in the unit UTRAN_SIR where:~~ ~~UTRAN_SIR_00: SIR < -11.0dB~~ ~~UTRAN_SIR_01: -11.0dB ≤ SIR < -10.5dB~~ ~~UTRAN_SIR_02: -10.5dB ≤ SIR < -10.0dB~~ ~~....~~ ~~UTRAN_SIR_61: 19.0dB ≤ SIR < 19.5dB~~ ~~UTRAN_SIR_62: 19.5dB ≤ SIR < 20.0dB~~ ~~UTRAN_SIR_63: 20.0dB ≤ SIR~~

5.2.5 Transport channel BER

Definition	The transport channel BER is an estimation of the average bit error rate (BER) of DCH or USCH data. The transport channel (TrCH) BER is measured from the data considering only non-punctured bits at the input of the channel decoder in Node B. It shall be possible to report an estimate of the transport channel BER for a TrCH after the end of each TTI of the TrCH. The reported TrCH BER shall be an estimate of the BER during the latest TTI for that TrCH. Transport channel BER is only required to be reported for TrCHs that are channel coded.
~~**Range/mapping**~~	~~Transport channel BER is given with a logarithmic resolution of 0.008125 within the range [10^-2.06375 ... 1] with two separate cases Transport channel BER=0 and Transport channel BER between 0 and 10^-2.06375..~~ ~~Transport channel BER shall be reported in the unit TrCH_BER_LOG, where:~~ ~~TrCH_BER_LOG_000: Transport channel BER = 0~~ ~~TrCH_BER_LOG_001: -∞ < Log10(Transport channel BER) < -2.06375~~ ~~TrCH_BER_LOG_002: -2.06375 ≤ Log10(Transport channel BER) < -2.055625~~ ~~TrCH_BER_LOG_003: -2.055625 ≤ Log10(Transport channel BER) < -2.0475~~ ~~...~~ ~~TrCH_BER_LOG_253: -0.024375 ≤ Log10(Transport channel BER) < -0.01625~~ ~~TrCH_BER_LOG_254: -0.01625 ≤ Log10(Transport channel BER) < -0.008125~~ ~~TrCH_BER_LOG_255: -0.008125 ≤ Log10(Transport channel BER) ≤ 0.000~~

5.2.6 Physical channel BER

Definition	The physical channel BER is an estimation of the average bit error rate (BER) of a DPCH or PUSCH.
~~**Range/mapping**~~	~~Physical channel BER is given with a logarithmic resolution of 0.008125 within the range [10^-2.06375 ... 1] with two separate cases Physical channel BER=0 and Physical channel BER between 0 and 10^-2.06375..~~ ~~Physical channel BER shall be reported in the unit BER_LOG, where:~~ ~~BER_LOG_000: Physical channel BER = 0~~ ~~BER_LOG_001: -∞ < Log10(Physical channel BER) < -2.06375~~ ~~BER_LOG_002: -2.06375 ≤ Log10(Physical channel BER) < -2.055625~~ ~~BER_LOG_003: -2.055625 ≤ Log10(Physical channel BER) < -2.0475~~ ~~...~~ ~~BER_LOG_253: -0.024375 ≤ Log10(Physical channel BER) < -0.01625~~ ~~BER_LOG_254: -0.01625 ≤ Log10(Physical channel BER) < -0.008125~~ ~~BER_LOG_255: -0.008125 ≤ Log10(Physical channel BER) ≤ 0.000~~

5.2.7 Transport channel BLER

Definition	Estimation of the transport channel block error rate (BLER) of a DCH or USCH. The BLER estimation shall be based on evaluating the CRC on each transport block.
~~**Range/mapping**~~	~~Transport channel BLER is given with a logarithmic resolution of 0.065 with the range [10^-4.03 ... 1] including a separate case Transport channel BLER=0.~~ ~~Transport channel BLER shall be reported in the unit BLER_LOG, where:~~ ~~BLER_LOG_00: BLER = 0~~ ~~BLER_LOG_01: -∞ < Log10(Transport channel BLER) < -4.030~~ ~~BLER_LOG_02: -4.030 ≤ Log10(Transport channel BLER) < -3.965~~ ~~BLER_LOG_03: -3.965 ≤ Log10(Transport channel BLER) < -3.900~~ ~~...~~ ~~BLER_LOG_61: -0.195 ≤ Log10(Transport channel BLER) < -0.130~~ ~~BLER_LOG_62: -0.130 ≤ Log10(Transport channel BLER) < -0.065~~ ~~BLER_LOG_63: -0.065 ≤ Log10(Transport channel BLER) ≤ 0.000~~

5.2.8 Transmitted carrier power

Definition	Transmitted carrier power, is the ratio between the total transmitted power on one DL carrier [W] from one UTRAN access point measured in a timeslot and the maximum transmission power [W] that is possible to use on the same carrier during the measurement period. The maximum transmission power is the configured maximum transmission power for the cell. The measurement shall be possible on any carrier transmitted from the UTRAN access point. The reference point for the transmitted carrier power measurement shall be the antenna connector. In case of Tx diversity the transmitted carrier power for each branch shall be measured.
~~**Range/mapping**~~	~~Transmitted carrier power is given with a resolution of 1% with the range [0, ..., 100] %.~~ ~~Transmitted carrier power shall be reported in the unit UTRAN_TX_POWER, where:~~ ~~UTRAN_TX_POWER_000: Transmitted carrier power = 0%~~ ~~UTRAN_TX_POWER_001: 0% < Transmitted carrier power ≤ 1%~~ ~~UTRAN_TX_POWER_002: 1% < Transmitted carrier power ≤ 2%~~ ~~UTRAN_TX_POWER_003: 2% < Transmitted carrier power ≤ 3%~~ ~~...~~ ~~UTRAN_TX_POWER_098: 97% < Transmitted carrier power ≤ 98%~~ ~~UTRAN_TX_POWER_099: 98% < Transmitted carrier power ≤ 99%~~ ~~UTRAN_TX_POWER_100: 99% < Transmitted carrier power ≤ 100%~~

5.2.9 Transmitted code power

Definition	Transmitted Code Power, is the transmitted power on one carrier and one channelisation code in one timeslot. The reference point for the transmitted code power measurement shall be the antenna connector at the UTRAN access point cabinet.
~~**Range/mapping**~~	~~Transmitted code power is given with a resolution of 0.5dB with the range [-10, ..., 46] dBm.~~ ~~Transmitted code power shall be reported in the unit UTRAN_TX_CODE_POWER, where:~~ ~~UTRAN_TX_CODE_POWER_000 to UTRAN_TX_POWER_009: reserved~~ ~~UTRAN_TX_CODE_POWER_010: -10.0dBm ≤ CODE_POWER < -9.5dBm~~ ~~UTRAN_TX_CODE_POWER_011: -9.5dBm ≤ CODE_POWER < -8.5dBm~~ ~~UTRAN_TX_CODE_POWER_012: -8.5dBm ≤ CODE_POWER < -7.5dBm~~ ~~...~~ ~~UTRAN_TX_CODE_POWER_120: 45.0dBm ≤ CODE_POWER < 45.5dBm~~ ~~UTRAN_TX_CODE_POWER_121: 45.5dBm ≤ CODE_POWER < 46.0dBm~~ ~~UTRAN_TX_CODE_POWER_122: 46.0dBm ≤ CODE_POWER < 46.5dBm~~

5.2.10 RX Timing Deviation

Definition	'RX Timing Deviation' is the time difference $T_{RXdev} = T_{TS} - T_{RXpath}$ in chips, with T_{RXpath}: time of the reception in the Node B of the first significant uplink path to be used in the detection process T_{TS}: time of the beginning of the respective slot according to the Node B internal timing
~~**Range/mapping**~~	~~RX Timing Deviation is given with a resolution of 0.25 chip with the range [-256; 256) chips (11 bit).~~ ~~RX Timing Deviation cell shall be reported in the unit RX_TIME_DEV, where~~ ~~RX_TIME_DEV: (N* 0.25 - 256) chips ≤ RX Timing Deviation < ((N+1)* 0.25 - 256) chips~~ ~~With N= 0, 1, 2, ..., 2047~~

NOTE: This measurement can be used for timing advance calculation or location services.

3GPP TSG RAN Meeting #8
Düsseldorf, Germany, 21-23 June 2000

Document *R1-00-0801*
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

25.225	**CR**	**011**	Current Version:	3.2.0

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

For submission to:	TSG RAN #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

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 [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG RAN WG1 **Date:** 25.05.2000

Subject: Removal of transport channel BLER

Work item:

Category: *(only one category shall be marked with an X)*

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: Decision by WG 2

Clauses affected: 5.2.7

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.

5.2.7 Transport channel BLER

Definition	Estimation of the transport channel block error rate (BLER) of a DCH or USCH. The BLER estimation shall be based on evaluating the CRC on each transport block.
Range/mapping	Transport channel BLER is given with a logarithmic resolution of 0.065 with the range [10^-4.03 ... 1] including a separate case Transport channel BLER=0. Transport channel BLER shall be reported in the unit BLER_LOG, where: BLER_LOG_00: BLER = 0 BLER_LOG_01: $-\infty$ < Log10(Transport channel BLER) < -4.030 BLER_LOG_02: -4.030 ≤ Log10(Transport channel BLER) < -3.965 BLER_LOG_03: -3.965 ≤ Log10(Transport channel BLER) < -3.900 ... BLER_LOG_61: -0.195 ≤ Log10(Transport channel BLER) < -0.130 BLER_LOG_62: -0.130 ≤ Log10(Transport channel BLER) < -0.065 BLER_LOG_63: -0.065 ≤ Log10(Transport channel BLER) ≤ 0.000