TSG-RAN Working Group 1 meeting #9
Dresden, Germany

TSGR1#9(99)L48

November 30 - December 3, 1999

Source: **RAN WG1**

To: **RAN WG2**

Cc: **RAN WG3, RAN WG4**

Title: **LS on introducing 2 types of UTRAN Physical channel BER**

RAN WG1 would like to inform RAN WG2 than RAN WG1 identified the need for a UTRAN Physical Channel BER measurement performed on DPCCH.

After discussion, RAN WG1 identified that this type of measurement could be useful to update the uplink outer loop power control when no data is present on the DPDCH. Updating the uplink outer loop in this case allows more efficient inner loop power control when the transmission of the data is resumed and DPDCH is transmitted again.

In order for this information to be used efficiently, RAN WG1 would like to point out that it should be possible to report together to higher layers both types of measurements i.e. Physical Channel BER measured on the DPDCH and on the DPCCH.

So RAN WG1 would welcome the introduction of two types of Physical Channel BER for UTRAN : type 1 measured on the DPDCH and type 2 measured on the DPCCH.

RAN WG1 agreed on a text to be included in 25.215 and would suggest that RAN WG2 updates its specifications if this is acceptable so that they are in line with RAN WG1 specifications. The corresponding CR to 25.215 approved during RAN WG1#9 is presented in Annex.

References

[1] R1-99k81 : Physical Channel BER on DPCCH

3GPP TSG RAN WG1 Meeting #9
Dresden, Germany, Nov 30 – Dec 3, 1999

***Document* ???99???**
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.

25.215	CR	005r01	Current Version:	3.0.0

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

For submission to:	TSG-RAN #6	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: Ericsson **Date:** 1999-12-03

Subject: Physical channel BER on DPCCH

Work item:

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

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

Reason for change: When no uplink data is sent on the uplink (uplink DTX) there will be periods where no physical channel BER on DPDCH or CRC for BLER calculation is available for the outer loop power control to adjust the SIR target. During DTX the control channel (DPCCH) is transmitted and it is possible to estimate the physical channel BER on the DPCCH. Since the DPDCH BER and DPCCH BER are correlated it will be possible to adjust the SIR target during DTX. This CR proposes the possiblity to measure physical channel BER on DPCCH.

Clauses affected: 5.2.6 Physical channel BER

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.

Column field	**Comment**
Definition	Contains the definition of the measurement.
Range/mapping	Gives the range and mapping to bits for the measurements quantity.

5.2.1 RSSI

Definition	Received Signal Strength Indicator, the wide-band received power within the UTRAN uplink carrier channel bandwidth in an UTRAN access point. The reference point for the RSSI measurements shall be the antenna connector.
Range/mapping	

5.2.2 SIR

Definition	Signal to Interference Ratio, is defined as the RSCP divided by the ISCP. Measurement shall be performed on the DPCCH after RL combination in Node B. The reference point for the SIR measurements shall be the antenna connector.
Range/mapping	

5.2.3 Transmitted carrier power

Definition	Transmitted carrier power, is the total transmitted power on one carrier from one UTRAN access point. Measurement shall be possible on any carrier transmitted from the UTRAN access point. The reference point for the total transmitted power measurement shall be the antenna connector. In case of Tx diversity the total transmitted power for each branch shall be measured.
Range/mapping	

5.2.4 Transmitted code power

Definition	Transmitted code power, is the transmitted power on one carrier, one scrambling code and one channelisation code. Measurement shall be possible on any channelisation code transmitted from the UTRAN access point. The reference point for the transmitted code power measurement shall be the antenna connector. In case of Tx diversity the transmitted code power for each branch shall be measured.
Range/mapping	

5.2.5 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. Measurement shall be possible to perform on any transport channel after RL combination in Node B. BLER estimation is only required for transport channels containing CRC.
Range/mapping	

5.2.6 Physical channel BER

Definition	Type 1 : Measured on the DPDCH The physical channel BER is an estimation of the average bit error rate (BER) before channel decoding of the DPDCH data after RL combination in Node B. Type 2: Measured on the DPCCH: The Physical channel BER is an estimation of the average bit error rate (BER) on the DPCCH after RL combination in Node B. -It shall be possible to report a physical channel BER estimate of type 1 or of type 2 or of both types at the end of each TTI for the transferred TrCh's, e.g. for TrCh's with a TTI of x ms a x ms averaged physical channel BER shall be possible to report every x ms.
Range/mapping	