

Agenda item: R99/Rel-4
Source: QUALCOMM
Title: Correction the TrCH BLER measurement
Document for: Decision

We believe that the current specification for BLER estimation is not sufficiently clear and not in line with assumptions made in other working groups [1]. As this may result in inter-operability issues we believe that this should be corrected for release 1999.

BLER computation

The existing text does not explicitly specify the procedure or formula used to derive the BLER estimation in the terminal. This may result in different interpretations. Consequently, for a given configuration, the effective QoS experienced by users using terminals based on different interpretations may be different. This leads to additional challenges in service quality monitoring and control.

Condition for BLER derivation

The existing text is not very specific on the conditions (set of transport channel parameters) necessary to enable BLER estimation for a given transport channel. This may again lead to different assumptions on both the network and terminal side and result in invalid (as perceived by the terminal) configurations and possibly unexpected behaviour. The proposed text explicitly describes the condition under which BLER estimation shall be possible for a given transport channel.

Requirement for BLER derivation

Current text requires that BLER estimation is possible on all transport channels. This is probably not what was meant originally, however this leads to some unnecessary overhead in some configurations. As an example this implies that BLER measurement should be possible on all AMR RAB subflows (meaning they should all have non zero CRC sizes) which is not in line with the common understanding and typical radio parameter sets listed in [1]. The proposed text clarifies that the UE is expected to be able to perform BLER measurement on all transport channel it receives (i.e. parallel measurement) which are configured such that BLER measurement is possible.

Backward compatibility

We have not identified any backward compatibility issue related to the suggested corrections.

References

[1] TS 34.108 V3.3.0 "Common Test Environments for User Equipment (UE) Conformance Testing"

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CHANGE REQUEST

⌘ **25.215 CR 089** ⌘ ev **-** ⌘ Current version: **3.6.0** ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction the TrCH BLER measurement		
Source:	⌘ QUALCOMM Europe		
Work item code:	⌘ Release 1999	Date:	⌘ 10/05/2001
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Ambiguity on how to derive BLER estimation; inconsistency with 34.108		
Summary of change:	⌘ Explicit description of BLER computation; correction to the applicability of BLER.		
Consequences if not approved:	⌘ Potential inter-operability problems related to the RAB QoS setting; Inconsistency with other documents of the release 1999 specification.		

Clauses affected:	⌘ 5.1.6		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘ This CR is backward compatible with the 03-2001 version of release 1999.		

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
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5.1.6 Transport channel BLER

Definition	<p>Estimation of the transport channel block error rate (BLER). The BLER estimation shall be based on evaluating the CRC on of each transport block <u>associated with the measured transport channel after RL combination. The BLER shall be computed over the measurement period as the ratio between the number of received transport blocks resulting in a CRC error and the number of received transport blocks.</u></p> <p>When TFCI is used, BLER estimation is only required <u>the measurement transport channel BLER may only be requested for a transport channels when the associated CRC size is non zero and at least one transport format in the associated transport format set includes at least one transport block.</u></p> <p>When TFCI is not used, the measurement transport channel BLER may only be requested for a transport channel when the associated CRC size is non zero and all transport formats in the associated transport format set include at least one transport block. using CRC. In case of no TFCI is used all transport formats of a transport channel shall use CRC to enable BLER estimation for this transport channel. In connected mode the BLER shall be possible to measure on any transport channel.</p> <p><u>In connected mode, the UE shall be able to perform the measurement transport channel BLER on any transport channel configured such that the measurement transport channel BLER can be requested as defined in this section.</u></p> <p><u>In idle mode the UE shall be able to perform the measurement transport channel BLER on the transport channel PCH when the PCH transport channel parameters are such that the measurement transport channel BLER can be requested as defined in this section.</u>If requested in idle mode it shall be possible to measure the BLER on transport channel PCH.</p>
Applicable for	Idle, Connected Intra

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CHANGE REQUEST

⌘ **25.215 CR 090** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

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Reason for change:	⌘ Ambiguity on how to derive BLER estimation; inconsistency with 34.108		
Summary of change:	⌘ Explicit description of BLER computation; correction to the applicability of BLER.		
Consequences if not approved:	⌘ Potential inter-operability problems related to the RAB QoS setting; Inconsistency with other documents of the release 4 specification.		

Clauses affected:	⌘ 5.1.6		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

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5.1.6 Transport channel BLER

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Applicable for	Idle, Connected Intra