Agenda item: CRs for Rel 99/ Rel 4

Source: Panasonic

Title: Clarification of UE Transport channel BLER measurement

Document for: Approval

TS 25.435 section 5.1.3 specifies the Node B behaviour on S-CCPCH. From our understanding of this specification, Node B does not transmit TFCI bits if the node B is not aware of a TFI value corresponding to zero bits for the transport channel or if combining the TFI corresponding to zero bits with other TFI's results in an unknown TFI combination. This is not intended for error case of Iub transmission. RNC can configure the setting without TFI value corresponding to zero bits to decrease Iub transmission.

Not assuming the case of BTFD limitation can apply, to measure BLER on this transport channel requires power measurement on the specific transport channel. It was discussed to measure power measurement on the specific transport channel is rather complex [1].

To avoid complex measurement, we propose to remove the BLER measurement over S-CCPCH.

Following are quoted from TS25.435 section 5.1.3.

If the Node B does not receive a valid FP frame in a TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the FACH and PCH transport channels, the TFS shall never define a Transport Block Size of zero bits.

If the Node B is aware of a TFI value corresponding to zero bits for this transport channel, this TFI is assumed. When combining the TFI's of the different transport channels, a valid TFCI might result and in this case data shall be transmitted on the Uu.

If the node B is not aware of a TFI value corresponding to zero bits for this transport channel or if combining the TFI corresponding to zero bits with other TFI's results in an unknown TFI combination, the handling as described in the following paragraph shall be applied.

At each frame, the Node B shall build the TFCI value of each secondary-CCPCH according to the TFIs of the transport channels multiplexed on this secondary-CCPCH and scheduled for that frame. [FDD — In case the Node B receives an unknown TFI combination, no pilot bits, TFCI bits or Data bits shall be transmitted.] [TDD — In case the Node B receives an unknown TFI combination, it shall apply DTX, i.e. suspend transmission on the corresponding S-CCPCH – except if this S-CCPCH provides the "beacon function", in which case the Node B shall maintain the physical layer transmission as specified in TS 25.221].

If the Node B does not receive a valid FP frame in a TTI or a frame without paging indication information, it assumes that no UE's have to be paged on the Uu in this TTI. In this case the default PICH bit pattern of all zeros shall be transmitted.

The other solution is to ensure that NodeB always send TFCI except error case. To compare with adding new function, not using the function has better back word compatibility. So this CR chose the solution of removing BLER from S-CCPCH.

References:

[1] R1-00-1295, "CR 25.212-094r2, Correction of BTFD limitations", Ericsson

CR-Form-v4

CHANGE REQUEST

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

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

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

Title: ⌘	Clarification of UE Transport channel BLER measurement	
Source: ⌘	Panasonic	
Work item code: ⌘		*Date:* ⌘ 18, May, 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: ⌘	- TS25.435 section 5.1.3 specifies the behaviour of Node B transmission in the case of 0bit data case. If the node B is not aware of a TFI value corresponding to zero bits for this transport channel, no pilot bits, TFCI bits or Data bits is not transmitted. In the case of TFCI is transmitted according to the TFI and not using fixed position (not assuming BTFD), to measure BLER is difficult.
Summary of change: ⌘	- To remove transport BLER measurement over S-CCPCH.
Consequences if not approved: ⌘	- Inaccurate BLER is reported or UE complexity will be increases.

Clauses affected: ⌘	5.1.6
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under 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.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.1.6 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 after RL combination. BLER estimation is only required for transport channels 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 except transport channel transmitted over S-CCPCH. If requested in idle mode it shall be possible to measure the BLER on transport channel PCH.
Applicable for	Idle, Connected Intra