TSG-RAN Working Group1 meeting #20   TSGR1#20(01)0504

Busan, Korea, May 21st – 25th 2001

Agenda Item   :   5

Source   :   **Nortel Networks**

Title   :   **Clarification of BLER measurement and downlink synchronisation criteria**

Document for   :   **Discussion and approval**

1. Introduction

At the last RAN WG1 meeting , NTT DoCoMo introduced 2 change requests (25.214-163 and 25.215-086) to clarify the conditions when the UE can be required to detect a CRC from a given transport channel in case no TFCI is used in the downlink. The following situation happens in the context of downlink synchronisation (one of the criteria for the downlink synchronisation primitives uses CRC) and BLER measurement.

In 25.214, it was clarified that the criteria using CRC can only be used for transport channels which uses CRC in all transport formats (when no TFCI is present) i.e. when no TFCI is present, it cannot be applied on transport channels which have the zero block transport format.

In 25.215, it was clarified that when no TFCI is present, the BLER measurement cannot be required from the UE for transport channels which do not include CRC in all transport formats i.e. when no TFCI is present, BLER measurement cannot be requested for a transport channel which includes the zero block transport format.

In case no TFCI is present, at least one guiding transport channel has to be defined. The detection of this guiding transport channel will indicate the transport format of one or several other transport channels present in the CCTrCh. Therefore for these other transport channels it is possible to estimate the downlink synchronisation primitive using CRC and to estimate the BLER measurement even if these other transport channels have the zero block transport format. Indeed thanks to the presence of the guiding transport channel, the receiver does not have to rely on the CRC of the other transport channels to detect their respective transport format. In that case, CRC can be used to estimate the BLER. To put it in a different way thanks to the guiding transport channel, it is possible for the receiver for the other transport channels to distinguish between no data (i.e. transport format zero block) and another transport format transmitted with errors causing CRC failure. For the other transport channels (other than the guiding) the result of the CRC detection can be used exactly as in the case when a TFCI is present.

As a consequence it is proposed that the restrictions introduced by NTT DoCoMo apply only for the guiding transport channels.

2. Proposed change requests

- Change request on downlink synchronisation primitives in TS25.214

- Change request on transport channel BLER in TS25.215