7TSG-RAN Working Group 3, meeting # 7 ***TSGR3#7(99)C35***

Sophia Antipolis, 20-24 September 1999

Agenda Item: 15.3, 16.2

Source: Nokia

Title: Additional physical channel parameters in RNSAP/NBAP DCH procedures

Document for: Approval

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1 Introduction

This paper proposes the parameters needed to indicate the DL power adjustment step size and the use of Blind Transport Format detection and Fixed DCH position in relevant RNSAP and NBAP. Those parameters, defined in WG1, have not been yet introduced in WG3 specifications.

2 Discussion

2.1 DL power adjustment step size

During the inner-loop downlink transmit power control UTRAN adjusts the downlink transmit power of the DPCCH/DPDCH as a response to the received TPC commands from the UE. In [25.214] (chapter 5.2.3.2) it is mentioned that "*changes of power shall be a multiple of the minimum step size $D_{TPC,min}$ dB. It is mandatory for UTRAN to support $D_{TPC,min}$ of 1 dB, while support of 0.5 dB is optional*". Because the power control step size has to be the same in all radio links of an active set, the L1 in the Node B has to be informed about the step size in a radio link basis.

2.2 Fixed or Flexible DCH position

In [25.212] (chapter 4.2.9) it is mentioned that "*In the downlink, DTX is used to fill up the radio frame with bits. The insertion point of DTX indication bits depends on whether fixed or flexible positions of the TrCHs in the radio frame are used. It is up to the UTRAN to decide for each CCTrCH whether fixed or flexible positions are used during the connection*". That is why L1 both in the UE and the NodeB has to be informed about the positions of the TrCHs in the downlink DPCH.

2.3 Blind Transport Format Detection

In [25.211] (chapter 5.2.1), the uplink DPCCH bit fields are specified so that the DPCCH can be transmitted with or without TFCI bits, in order to save transmitted power when an explicit indication of the TFCI is not necessary.

In [25.212] (chapter 4.2.15), it is mentioned *that "For uplink, the blind transport format detection is an operator option*". That is why L1 both in the UE and the NodeB has to be informed about usage of the TFCI bits in the uplink DPCH.

In [25.211] (chapter 5.3.2) the downlink DPCCH bit fields are specified so that the DPCCH can be transmitted with or TFCI bits. However, in WG1 the discussion about the rules to use blind transport format detection in downlink is still ongoing, and the inclusion of the 'UL Blind Transport Format Detection' parameter in the relevant RNSAP and NBAP message shall be considered FFS.

3 Proposals

- Include the parameter 'DL Power adjustment step size' in the RNSAP and NBAP RL SETUP REQUEST, RL RECONFIGURATION PREPARE and RL RECONFIGURATION REQUEST ([25.423] and [25.433], mandatory, FDD only, no indentation). The parameter has the following definition:

  DL Power adjustment step size

  Indicates the minimum step size to be used for the DL fast power adjustment. Possible values are 0.5 and 1 dB.

- Include the parameter 'DL DCHs Position' in the RNSAP and NBAP RL SETUP REQUEST, RL RECONFIGURATION PREPARE and RL RECONFIGURATION REQUEST ([25.423] and [25.433], mandatory, FDD only, no indentation). The parameter has the following definition:

  DL DCH Position

  Indicates if the position of the DL DCH in the physical data frame structure is fixed or flexible.

- Include the parameter 'UL Blind Transport Format Detection' in the in the RNSAP and NBAP RL SETUP REQUEST, RL RECONFIGURATION PREPARE and RL RECONFIGURATION REQUEST ([25.423] and [25.433], mandatory, FDD only, no indentation). The parameter has the following definition:

  UL Blind Transport Format Detection

  Indicates if the Blind Transport Format Detection shall be applied in the UL.

4 References

[25.211] *Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)*

[25.212] *Multiplexing and Channel Coding (FDD)*

[25.214] *Physical Layer Procedures (FDD)*

[25.423] *RNSAP specification v.1.3.1*

[25.433] *NBAP specification v.1.2.1*