Agenda Item: 8.4, 8.7
Source: NEC, NTT DoCoMo, Panasonic(Matsushita), Fujitsu
Title: Performance in AWGN channel (BS in FDD mode)
Document for: Discussion

1. Introduction

This document proposes a modification on "Single link performance" in TS25.104(UTRA (BS) FDD; Radio transmission and Reception) and TS25.141 (Base station conformance testing (FDD)). Motivation of this proposal is to keep these specifications for BS in line with those for UE.

2. Text proposal for TS25.104 and TS25.141, chapter 8.2.1

The following modifications are proposed.

(1) Column for "Performance" is added to describe conditions much clearer.

(2) Data rate of 8kbps is changed to 12.2kbps as stated in section 7.3 (reference sensitivity level).

(3) Data rates of 144kbps and 384kbps are added as in table-24 of TS25.101(V2.1.0). Although, figures for these table need further investigation and to be filled in later.

(4) "Note" is subjoined, which indicate "not all of these data rates needs to be tested, but only supported one shall be".

N.B. Figures for each column shall be determined with taking into account of hardware margin.

3. Conclusion

Modification on "Single link performance" of Base Station is proposed. Although most of these figures need further study, this modification is necessary to keep consolidation between UE and BS specifications.

4. Text proposal for TS25.104 and TS25.141

8.2.1 Performance in AWGN channel

The performance requirement in AWGN channel is determined by the E_b/I_0 required for BER less than $=10^{-3}$ ~, or~ 10^{-6}. The BER is calculated for each of the possible data services.

8.2.1.2 Single link performance

The required E_b/I_0 is described in Table 8.2-1~XXX~.

Table 8.2-1~XXX~ Performance in AWGN channel~E_b/I_0 required for BER=10^{-3}, 10^{-6}~

Data services (BER)	Data rates (kbps)	Required E_b/I_0	Performance
Speech ~(10^{-3})~	12.2~8~	T.B.D.	BER shall not exceed 10^{-3}
Long Constrained Delay data bearer services ~(10^{-6})~	64 144 384 2048	T.B.D. T.B.D. T.B.D. T.B.D.	BER shall not exceed 10^{-6}
Unconstrained Delay Data bearer services ~(10^{-6})~	64 144 384 2048	T.B.D. T.B.D. T.B.D. T.B.D.	BER shall not exceed 10^{-6}

Note: Data rates which are supported by the equipment under test shall be tested.