TSG-RAN Working Group 1 AH21 **TSGR1(00)0833**

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Agenda Item: AH21
Source: CWTS
To: TSG RAN WG1
Title: Performance analysis
Document for: Discussion

Introduction

This paper introduce some simulation results for low chip rate TDD for performance analysis.

Simulation results

1. Simulation for BCH

Simulation parameters:

Channel model: vehicular A (Speed 120km/h)

Coding: CC ,coding rate =1/3

Link: downlink

SF: 16

Number of timeslots: 1

Codes per slot: 2

L1 control signals: No

TFCI: No

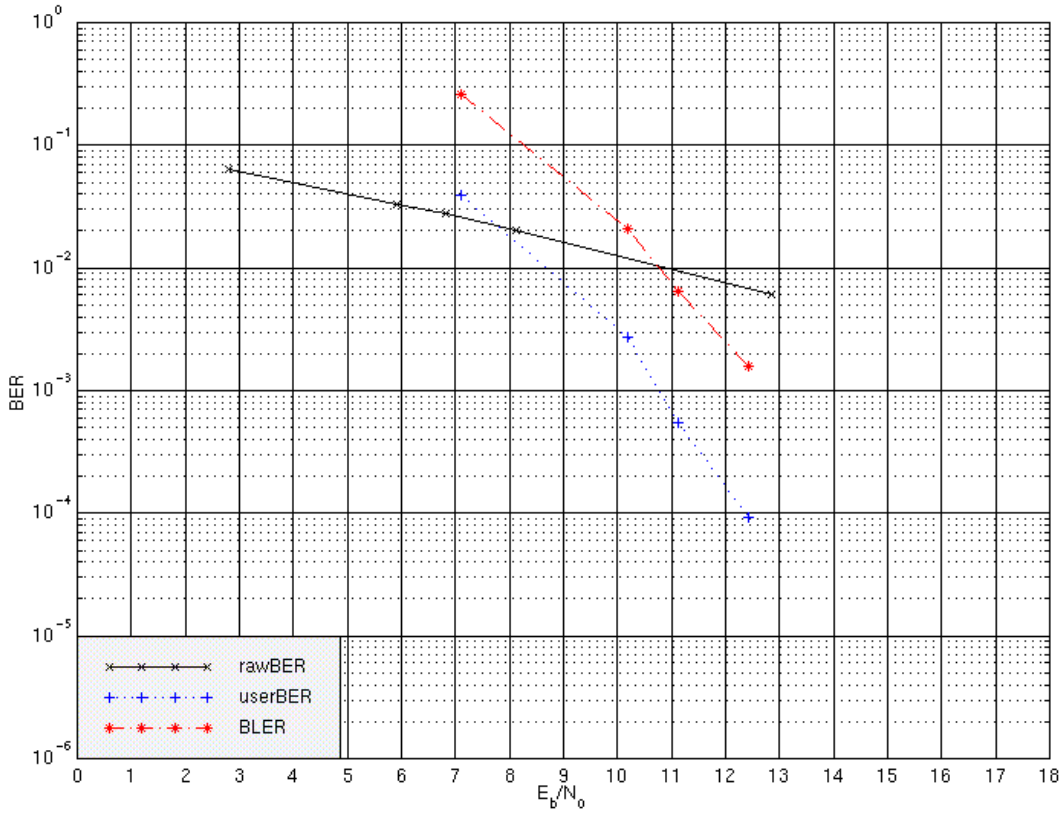

Figure 1: BER vs. Eb/N0 for BCH

2. Multiplexing of 12.2kbps data and 2.4kbps data

2.1 For 2.4kbps data path

Simulation parameters:

Channel model: vehicular A with Smart antenna (Speed 120km/h)

Coding:CC ,coding rate =1/2

Link: Uplink

SF:16

Number of users: 1

Number of time slot: 1

Codes per time slot: 3

L1 control signals: No

TFCI: No

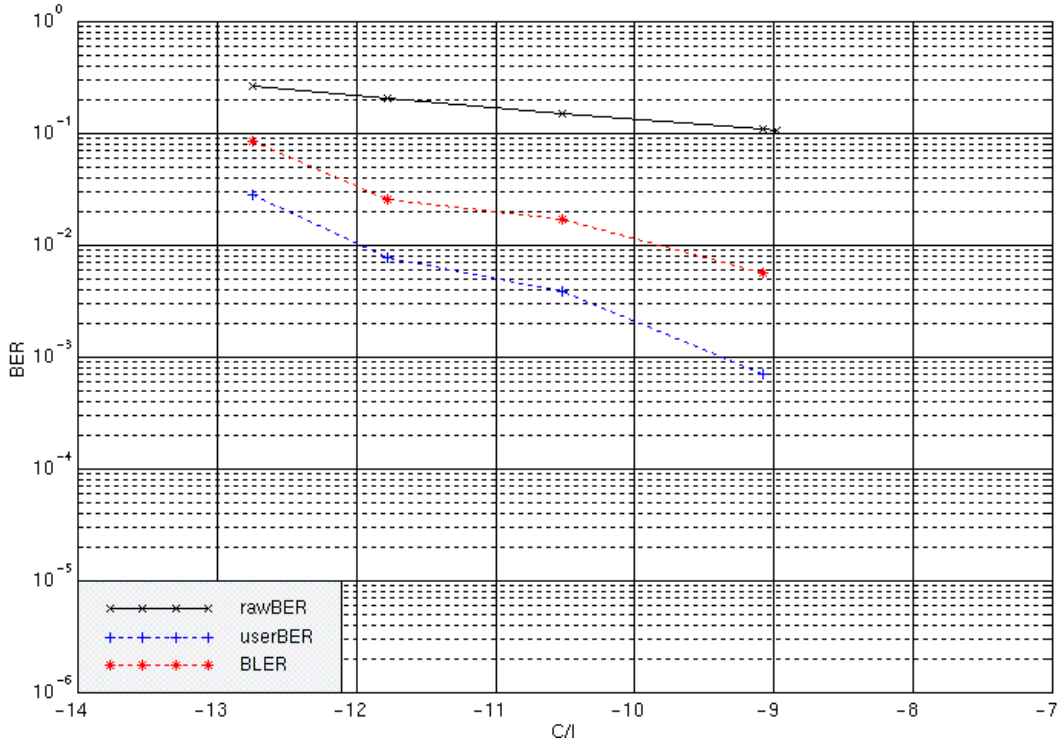

Figure 2: BER vs. C/I for 2.4kbps path

2.2 For 12.2kbps data path

Simulation parameters:

Channel model: vehicular A with Smart antenna (Speed 120km/h)

Coding: CC ,coding rate=1/2,class C

CC, coding rate=1/3,class A and B

Link: Uplink

SF:16

Number of users: 1

Number of time slot: 1

Codes per time slot: 3

L1 control singals: 4 bits.

TFCI: 16 bits(8 bits per subframe).

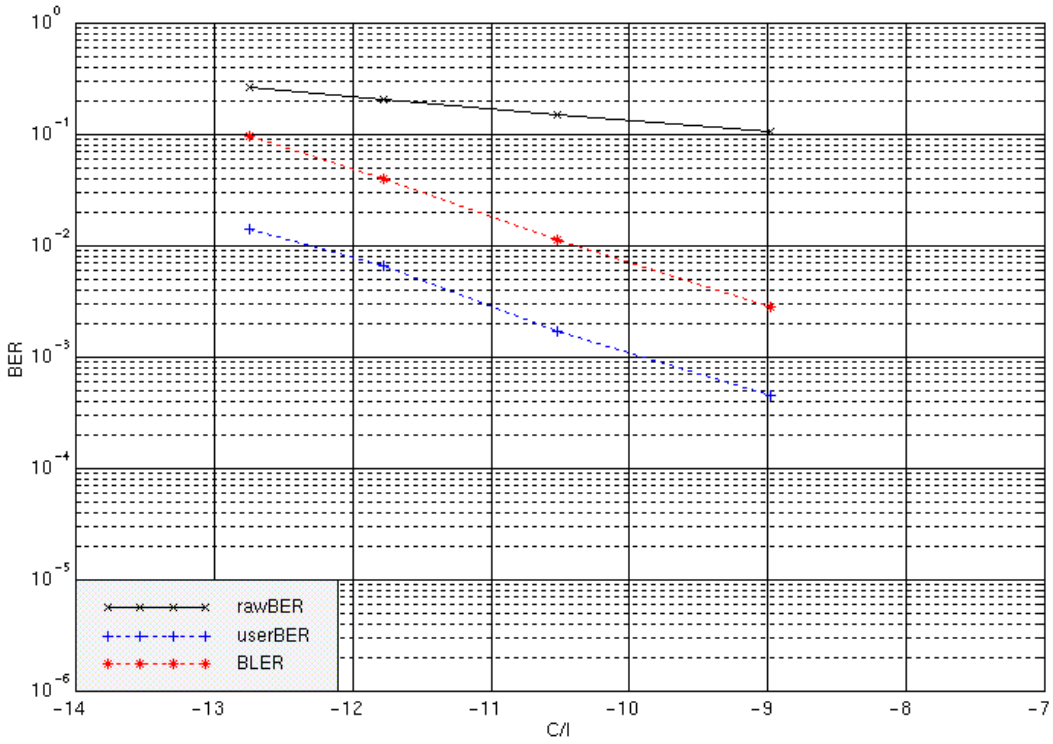

Figure 3: BER vs. C/I for 12.2kbps path

3. Simulation for 384kbps

Simulation parameters:

Channel model: vehicular A with Smart antenna (Speed 120km/h)

Coding: Turbo coding ,coding rate 1/3. Convolutional code with code rate 1/3 is optional for 384kbps packet data.

Link: Uplink

SF:16

Number of users: 1

Number of time slot: ~~5~~4

Codes per time slot: 16

L1 control signals: 4 bits.
TFCI: 16 bits

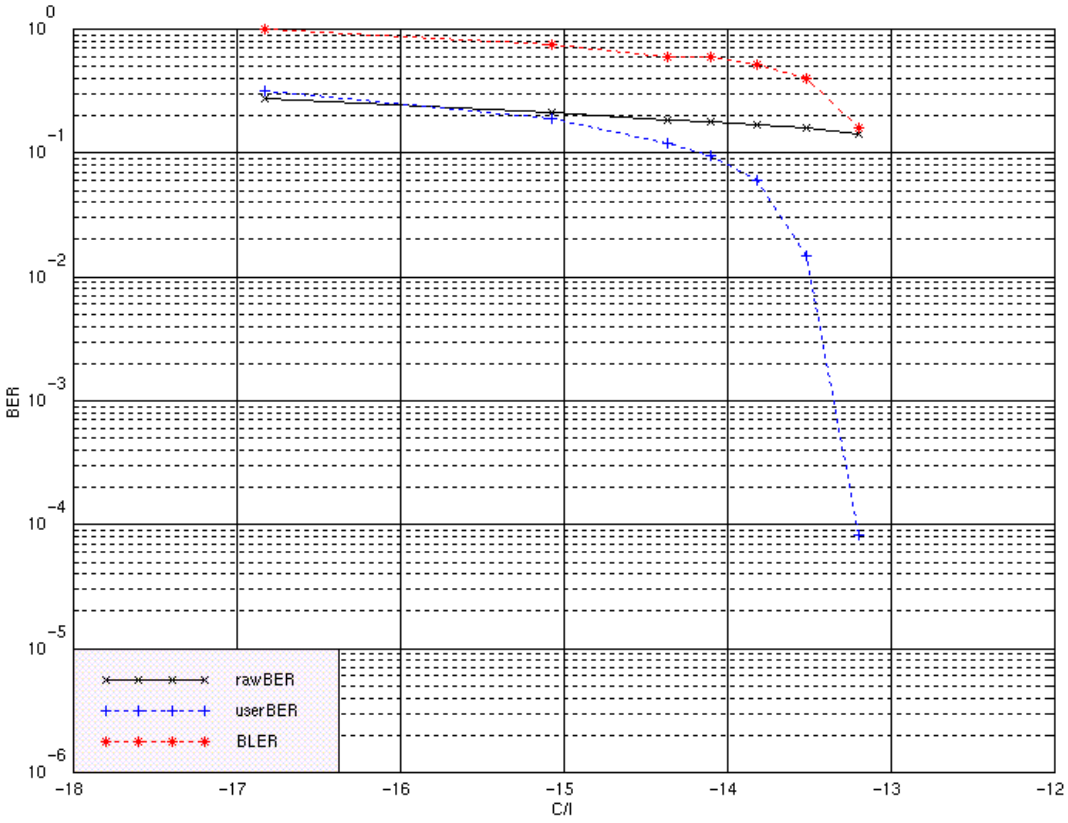

Figure 4: BER vs. C/I for 384kbps

4. Simulation for 2Mbps

The simulations for the indoor environments in uplink are considered. The channel model is compatible with the one in UMTS 30.03. The main parameters are listed as following:

4.1 Parameters

Service: 2 Mbps service

Channel model: Indoor A

Channel coding: None

Modulation/Demodulation: 8PSK;

Power Control: Ideal power control

Frame structure: 5ms

Number of time slot: 5

Codes per time slot: 16

4.2 Simulation Results

The following table and figures in next pages present the simulation results for 2 Mbps service without channel coding considered.

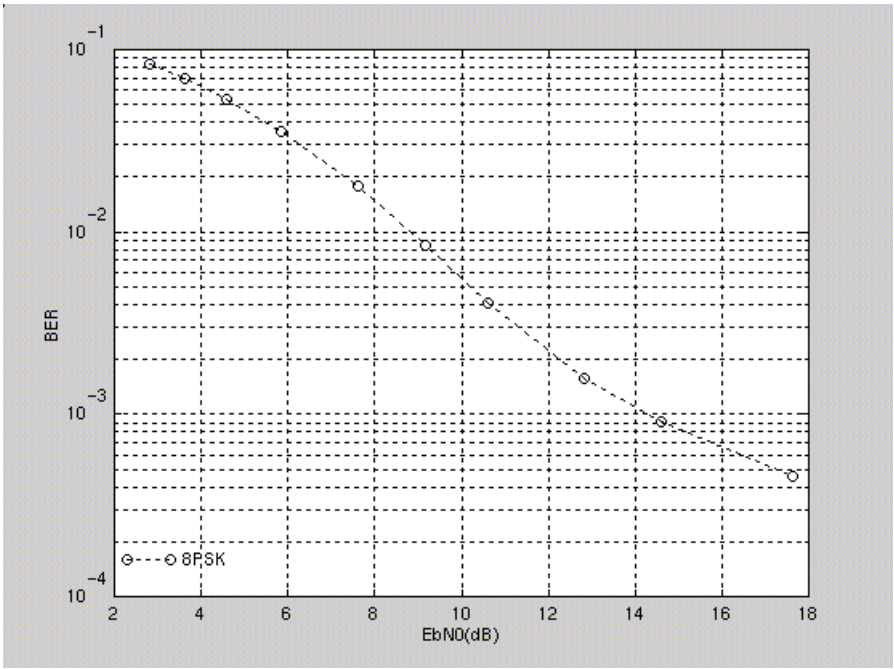

Figure 4: BER vs. EbNo for 2 Mbps service

(without coding using 8PSK modulation scheme)