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Source(s)	Joël Demarty joel@sequans.com SEQUANS Communications.
	Ambroise Popper ambroise@sequans.com SEQUANS Communications
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Operational margins for DL link adaptation

Joël Demarty, Ambroise Popper (SEQUANS Communications)

1. Introduction

Each SS has its own implementation, resulting in different performance. Therefore, it is not suitable for the BS to impose the same CINR entry and exit thresholds for all subscriber stations. We suggest a mechanism for the BS to define operational margins, and therefore control the desired level of robustness of the link (some operators might want less robustness but a better total throughput, some others guaranteed rates but less overall capacity). This would be to define the entry and exit thresholds not as absolute CINR levels, but relative to the performance of the SS. We take as reference the SNR required to attain a BER after FEC of 10^{-6} (defined as the Receiver SNR in section 8.3.11.1) in the different coding schemes. Each SS determines its own Implemented Receiver SNR, and determines exit and entry thresholds accordingly.

2. Text changes

Add to definitions p3, line 27:

3.27 Implemented receiver SNR: the minimum level of SNR required to reach a BER of 10^{-6} after FEC, as enabled by actual implementation.

In section 11.4.2, P79, modify table 362 from 802.16-2004 p663:

Table 362 - DCD burst profile encodings—WirelessMAN-OFDM

Name	Type	Length	Value
FEC code type	150	1	0 = BPSK (CC) 1/2 11 = 64-QAM (BTC) 2/3 1 = QPSK (RS+CC/CC) 1/2 12 = 64-QAM (BTC) 5/6 2 = QPSK (RS+CC/CC) 3/4 13 = QPSK (CTC) 1/2 3 = 16-QAM (RS+CC/CC) 1/2 14 = QPSK (CTC) 2/3 4 = 16-QAM (RS+CC/CC) 3/4 15 = QPSK (CTC) 3/4 5 = 64-QAM (RS+CC/CC) 2/3 16 = 16-QAM (CTC) 1/2 6 = 64-QAM (RS+CC/CC) 3/4 17 = 16-QAM (CTC) 3/4 7 = QPSK (BTC) 1/2 18 = 64-QAM (CTC) 2/3 8 = QPSK (BTC) 3/4 or 2/3 19 = 64-QAM (CTC) 3/4 9 = 16-QAM (BTC) 3/5 20–255 = Reserved 10 = 16-QAM (BTC) 4/5
DIUC mandatory exit threshold <u>margin</u>	151	1	0–63.75 dB <u>-32–31.75 dB</u> CINR <u>Margin compared to the SS' implemented receiver SNR</u> at or below where this DIUC can no longer be used and where this change to a more robust DIUC is required, in 0.25 dB units. See Figure 81
DIUC minimum entry threshold <u>margin</u>	152	1	0–63.75 dB <u>-32–31.75 dB</u> The minimum CINR <u>margin compared to the SS' implemented receiver SNR</u> required to start using this DIUC when changing from a more robust DIUC is required, in 0.25 dB units. See Figure 81

TCS_enable	153	1	0 = TCS disabled 1 = TCS enabled 2-255 = Reserved
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