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Re:	IEEE P802.16-2004/Cor1-D2
Abstract	Correction to make EVM and Receiver SNR consistent
Purpose	EVM and Rx SNR are inconsistent with one another.
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As it currently stands, the EVM (in table 264) and Rx SNR (in table 264) are inconsistent with one another.

Section 8.3.10.1.2 states that the receiver SNR can not degrade by more than 0.5 dB due to the transmitter's SNR. Table 264 states that (for example) 64-QAM-3/4 requires a relative constellation error of -31 dB. Table 266 states that the receiver SNR requirements for 64-QAM-3/4 is 24.4 dB.

These values are mutually inconsistent. If the Rx SNR is 24.4 dB, adding in a -31 dB Tx impairment results in a net SNR of 23.5 dB. This is a 0.9 dB reduction in Rx SNR, significantly worse than the 0.5 dB requirement. In order to have the transmitter impact a 24.4dB Rx SNR by only 0.5 dB, the required transmit EVM would be -33.9 dB.

I believe that the error is in table 266. The document, submitted by Tal Kaitz, Naftali Chayat of Alvarion in 2003, shows that the receiver SNR should be as shown below:

Modulation	Coding rate	Required SNR for BER=1e-6 [dB]
QPSK	½	6
QPSK	¾	8.5
QAM16	½	11.5
QAM16	¾	15
QAM64	2/3	18.5
QAM64	¾	21

With these numbers for required receiver SNR, then a -31 dB EVM on the transmitter gives a 0.4 dB reduction in overall SNR.

Suggested Corrections:

8.3.10.1.2
New text becomes "To ensure that the receiver SNR does not degrade by more than **0.4 dB** due to the transmitter SNR, the relative constellation RMS error, averaged over subcarriers, OFDM frames, and packets, shall not exceed a burst profile dependent value according to table 264."

Table 264 remains unchanged.

8.3.11.1
Table 266 should be:

Modulation	Coding rate	Required SNR for BER=1e-6 [dB]
QPSK	½	6
QPSK	¾	8.5
QAM16	½	11.5
QAM16	¾	15
QAM64	2/3	18.5
QAM64	¾	21

8.4.12.3:
Change the paragraph to read: "To ensure that the receiver SNR does not degrade by more than **0.4 dB** due to the transmitter SNR, the relative constellation RMS error, averaged over subcarriers, OFDMA frames, and packets, shall not exceed a burst profile dependent value according to table 336."

Table 336 should be identical to table 266 (EVM values are -13, -16, -18.5, -21.5, -25, -28.5, and -31 dB—all values in table 266 are 0.4 dB worse than these values).

12.4.3.1.5
In table 413, Tx relative constellation errors should be -16, -18.5, -21.5, -25, -28.5, and -31 dB (not -19.4, -21.2, -26.4, -28.2, -32.7, -34.4).