

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >
Title	Corrections for the definition of repetition code
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Re:	IEEE P802.16e/D3-2004
Abstract	Proposing corrections for the definition of the repetition code in 802.16REVd
Purpose	Correct errors in definition of repetition code.
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Corrections for the definition of repetition code

Yuval Lomnitz

1. Motivation

There are several problems in the definition of the repetition code (8.4.9):

- (1) Repetition code is defined only for repetition of 2, however, used for repetition of 4 and 6 - needs definition.
- (2) Definition of repetition code is in frequency domain only, so repetition of 6 is inefficient (e.g. for MAP this repetition would leave empty slots).
- (3) Repetition code as defined in the standard, cannot be applied in the UL, because of the uni-dimensional allocation. The beginning and end of the UL allocation may have edges which are 1 subchannel wide, so the number of subchannels doesn't divide by the repetition level.

2. Details

We propose to re-define the repetition code:

- (1) Define repetitions of up to 6 by repetition patterns of 1x2, 2x1 for repetition 2, 4x1, 2x2, 1x4 for repetition 4, and 1x6, 2x3, 3x2 and 6x1 for repetition 6.
- (2) Provide separate definition for repetition code in the UL.

Repetition code should supply frequency diversity and therefore use the maximal number of subchannels, while in the same time, allow narrow allocations where this is desired.

3. Changes summary

TBD