Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	Support for ranging in small FFT sizes
Date Submitted	**2004-09-02**
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Re:	IEEE P802.16e/D2-2004
Abstract	Definition of ranging for FFT-512 and FFT-128
Purpose	
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Support for ranging in small FFT sizes

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1.   Motivation

The ranging mechanism requires 6 subchannels. In various FFT sizes, namely segmented FFT-512 and FFT-128 (segmented or unsegmented) there are not enough subchannels to modulate the ranging codes. In FFT-512 there are 17 subchannels overall (need 18 to support ranging for 3 segments), and in FFT-128 there are 4 subchannels overall.

2.   Details

We propose to shorten the ranging code in order to fit into the ranging allocation. Since the BS has several options of dividing the subchannels between the segments, we suggest that the trimming of the ranging code will not be fixed, but be done depending on the allocation size. This way also maintains backward compatibility with the information elements and ranging procedure defined in 802.16REVd.

3.   Changes summary

8.4.7 OFDMA ranging

[Add the following text at the end of the heading section]

~~In FFT sizes other than 2048~~For FFT-128 mode, the BS may allocate less than 6 (or 8 in case of optional PUSC or AMC) subchannels for a ranging/BW-request allocation. In this case the SS shall produce the ranging code as defined below (as if 6/8 subchannels were allocated), but modulate only the tones in the subchannels allocated (so that the last bits of the ranging code are not transmitted).