Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	**Tables summarizing message parameters**	
Date Submitted	**2003-01-08**	
Source(s)	Carl Eklund Nokia P.O. Box 407 FIN-00045 Nokia Group	Voice: +358718036566 Fax: +358718036851 mailto:carl.eklund@nokia.com
Re:	RE: 802.16d-02/01	
Abstract	This document contains the boiler plate needed for creating a draft along with proposed fixes for the 802.16a-OFDM frame structure.	
Purpose	To aid 802.16d in the document development	
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Draft Amendment to IEEE Standard for Local and Metropolitan Area Networks – Part 16:

Air Interface for Fixed Broadband Wireless Access Systems – Detailed System Profiles for 2-11 GHz

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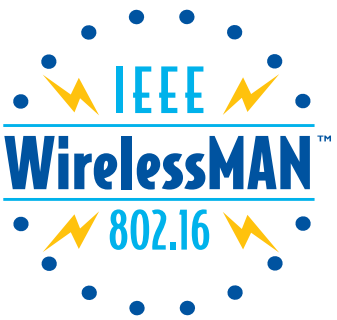

Abstract: This Amendment updates and expands Clause 12 of IEEE Std 802.16, which concerns system profiles that list sets of features and functions to be used in typical implementation cases. Errors and inconsistencies in IEEE Std 802.16 are also corrected. The scope is limited to 2-11 GHz.

Keywords: WirelessMAN™ standards, metropolitan area network, fixed broadband wireless access networks, millimeter waves, microwaves

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Participants

This document was developed by the IEEE 802.16 Working Group on Broadband Wireless Access, which is responsible for Wireless Metropolitan Area Network (WirelessMAN™) Standards:

IEEE 802.16 Working Group Officers
Roger B. Marks, *Chair*
N.N, *Vice Chair*
Dean Chang, *Secretary*

Primary development was carried out by the Working Group's Task Group c:

TGd Officers
Gordon Antonello, *Chair*
Unlucky Bastard, *Technical Editor*

The following members of the IEEE 802.16 Working Group on Broadband Wireless Access participated in the Working Group Letter Ballot in which the draft of this standard was approved:

The following members of the IEEE Balloting Committee voted on this standard, whether voting for approval or disapproval, or abstaining.

Contents

8.4.4 Frame structure

Change the five first paragraphs of 8.4.4.1 to:

8.4.4.1 PMP

In licensed bands, the duplexing method shall be either FDD or TDD. FDD SSs may be Half Duplex FDD (H-FDD). In license-exempt bands, the duplexing method shall be TDD.

The frame interval contains transmissions (PHY PDUs) of BS and SSs, gaps and guard intervals.

The OFDM PHY supports a frame-based transmission. A frame consists of a DL sub-frame and an UL sub-frame. A DL sub-frame consists of only one DL PHY PDU. A UL sub-frame consists of contention intervals scheduled for initial ranging and bandwidth request purposes and one or multiple UL PHY PDUs, each transmitted from a different SS.

A UL PHY PDU consists of only one burst, which is made up of a short preamble and an integer number of OFDM symbols. The burst PHY parameters of an UL PHY PDU are specified by a 4-bit UIUC in the UL-MAP. The UIUC encoding is defined in the UCD messages. Note the difference between a PHY PDU and a Burst.

A DL PHY PDU starts ~~from~~with a long preamble, which is used for PHY synchronization. The preamble is followed by a FCH burst. The FCH burst is one OFDM symbol long and is transmitted using QPSK rate 1/2 with the mandatory coding scheme. The FCH contains the DL_Frame_Prefix to specify the burst profile and length of the DL burst #1. The Rate_ID encoding is defined in Table 116am. A DL-MAP message shall immediately follow the DL_Frame:Prefix. An UL-MAP message shall immediately follow the DL-MAP message. Note that in the case of the remainder of the FCH being smaller than the size of the two messages combined they will 'spill' over into DL Burst #1. UCD and DCD messages may be transmitted following the DL-MAP and UL-MAP messages. ~~The FCH burst may also contain short MAC control messages, such as, DCD and/or UCD. It may also contain (partial) map messages.~~ Although the DL burst #1 contains broadcast MAC control messages, it is not necessary to use the most robust well-know modulation/coding. A more efficient modulation/coding may be used if it is supported and applicable to all the SSs of a BS.

8.4.5 Map message fields and IEs

Change section 8.4.5.1 to:

8.4.5.1 DL-MAP PHY Synchronization Field

The PHY Synchronization Field of the DL-MAP message is structured as follows.

Table 0a—OFDM PHY synchronization field

Syntax	Size	Notes
Synchronization_field{		
Frame Duration Code	8 bits	
Frame Number	24 bits	
~~**Allocation_Start_Time**~~	~~32 bits~~	
}		

Frame Duration Code

The frame duration Code values are specified in Table 116ao.

Frame Number

The frame number is incremented by 1 MOD 2^{24} each frame.

~~**Allocation_Start_Time**~~

~~Effective start time of the DL allocation defined by the DL-MAP in units of PSs. This start time is relative to the start of the frame in which the DL-MAP message is transmitted. The minimum value specified for this parameter shall correspond to the length of the DL-MAP.~~