Project	**IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>**
Title	**MAC Control Message ACK Signaling Header (15.2.2.3)**
Date Submitted	**2009-11-06**
Source(s)	Lei Wang Voice : +1 858 205-7286 InterDigital Communications, LLC E-mail: leiw@billeigean.com
Re:	IEEE 802.16 Working Group Letter Ballot #30a on P802.16m/D2
Abstract	The contribution proposes a MAC signaling header to provide acknowledgement to the reception of MAC control message.
Purpose	To be discussed and adopted by TGm for the 802.16m DRAFT amendment.
Notice	*This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups.* It represents only the views of the participants listed in the "Source(s)" field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.
Patent Policy	The contributor is familiar with the IEEE-SA Patent Policy and Procedures: <http://standards.ieee.org/guides/bylaws/sect6-7.html#6> and <http://standards.ieee.org/guides/opman/sect6.html#6.3>. Further information is located at <http://standards.ieee.org/board/pat/pat-material.html> and <http://standards.ieee.org/board/pat>.

MAC Control Message ACK Signaling Header (15.2.2.3)

Lei Wang

InterDigital Communications, LLC

1   Introduction

In the 802.16m/D2, an extended header, called Message Acknowledgement Extended Header (MAEH) is defined to provide an acknowledgement of the reception of a MAC control message by either ABS or AMS. The MAEH is really stand-alone control info, meaning not really related to the MAC PDU where this extended header is attached. Therefore, it should be a good candidate for MAC signaling header, particularly for the cases where such an acknowledgement needs to be sent alone.

This contribution proposes the changes in 802.16m/D2 to specify the newly proposed MAC signaling header.

2   Suggested changes in the 802.16m/D2

Based on the above discussion, we propose the following changes in the 802.16m/D2. Note that the new text is marked with blue and underline; the deleted text are marked with red and strikethrough.

Suggested change #1: page 30, line 7

Change the Table 669 on page 30 as follows:

Table 669—Type field encodings for MAC signaling header type

Type field (4)bits	MAC Signaling Header Type
0000	BR with STID; UL only
0001	BR without STID; UL only
0010	Service specific BR without STID; UL only
0011	Sleep Control; DL only;
0100 1111	Reserved Control message acknowledgement; DL and UL

0101 - 1111	Reserved

Suggested change #2: on page 32, line 43:

Insert the following text before line 43 on page 32:

15.2.2.3.4. Control Message Acknowledgement Signaling Header

The control message acknowledgement signaling header may be used by ABS and AMS to indicate the reception of a specific, previously received MAC control message. When an ABS or AMS receives a message or message fragment with the Polling bit set to 1, the ABS and AMS shall transmit an acknowledgement either through a control message acknowledge signaling header or message acknowledgement extended header, after receiving the complete message with the SN of the MAC control message MAC PDU or the last SN of the MAC control message fragment if fragmented. Its format is defined in Table 672a.

Table 672a—Control Message Acknowledgement Signaling Header Format

Syntax	Size (bit)	Notes
Control Message Acknowledgement Signaling Header() {		
FID	4	Flow Identifier. This field indicates MAC signaling header, i.e., 0b0010.
Type	4	MAC signaling header type.
ACK_SN	4	SN retrieved from the FEH of the MAC PDU with the Polling bit set to 1.
Reserved	4	Reserved. This field shall be filled by 0.
}		

3 References

[1] IEEE Std 802.16-2009

[2] IEEE P802.16m/D2, "DRAFT Amendment to IEEE Standard for Local and metropolitan area networks"