Project	**IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>**
Title	**Proposed Changes related to CDMA Allocation A-MAP IE (16.3.6.5.2.4.7)**
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Source(s)	Lei Wang InterDigital Communications, LLC Voice : +1 858 205-7286 E-mail: leiw@billeigean.com
Re:	IEEE 802.16 Working Group Letter Ballot #30b on P802.16m/D3
Abstract	The contribution proposes changes related to CDMA Allocation A-MAP IE (16.3.6.5.2.4.7)
Purpose	To be discussed and adopted by TGm for the 802.16m DRAFT amendment.
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Proposed Changes related to CDMA Allocation A-MAP IE (16.3.6.5.2.4.7)

Lei Wang

InterDigital Communications, LLC

1 Introduction

There are couple of issues related to the CDMA Allocation A-MAP IE:

a) The CDMA Allocation A-MAP IE is in a wrong Section;

b) The resource assignment information field in the CDMA Allocation A-MAP IE is still TBD.

This contribution proposes the changes in 802.16m/D3 to address the above issues.

2 Suggested changes in the 802.16m/D3

Based on the above discussion, we propose the following changes in the 802.16m/D3. Note that the new text is marked with blue and underline; the deleted text are marked with red and strikethrough.

Suggested change #1: on page 209, line 15

Move the text starting with "CDMA Allocation A-MAP IE ….." in line 15 on page 209 to line 16 on page 210 to line 58 on page 429.

Suggested change #2: on page 209, line 11

Delete line 11 on page 209 to line 16 on page 210.

Suggested change #3: on page 429, line 58

Change the newly moved CDMA Allocation A-MAP IE subsection as follows:

16.3.6.5.2.4.7 CDMA Allocation A-MAP IE

CDMA Allocation A-MAP IE is used for allocation of bandwidth to a user that requested bandwidth using a ranging code or BR code. AMS decodes the IE and checks the MCRC field by its specific 12-bit RA-ID and 4-bit Masking Indicator. The RA-ID is calculated by a hash function with the AMS' random access attributes (frame number index (4 bits), ranging code/BR code index (6 bits) and opportunity index (2 bits) as defined below:

RA-ID = (frame_index | ranging_code_index | opportunity_index)

Masking indicator indicates the identifier used for CRC masking, as shown in Table 744.The allocation shall be in the first UL AAI subframe relevant to the A-MAP region regardless of DL/UL ratio and $N_{AAI\ subframe,\ A\text{-}MAP}$. ~~The maximum number of the HARQ retransmission is TBD.~~

The UL HARQ function as specified in Section 16.2.14 shall be used in the UL data allocation allocated by the CDMA Allocation A-MAP IE. Before reaching the maximum HARQ retransmissions (i.e., N_MAX_ReTx), the ABS can send another CDMA allocation A-MAP IE with the corresponding RA_ID to stop or change the HARQ retransmission allocations. A CDMA allocation IE with zero resource allocation indicates a stop of the HARQ retransmissions.

Table 743—CDMA Allocation A-MAP IE format

Syntax	Size (bits)	Notes
CDMA_Allocation_A-MAP IE() {		
A-MAP IE Type	4	CDMA Allocation A-MAP IE
If MCRC is masked with RAID and masking indicator for BR {		
~~Resource Assignment Information~~	~~TBD~~	
Resource start offset (L)	7	When the value (L) is between 0 and 95, this field indicates the start offset of the Resource allocation (LRU). When the value (L) is 127, this field indicates a zero resource allocation by this CDMA Allocation A-MAP IE.
Allocation Size	1	Resource size in a subframe which is allocated by this CDMA Allocation A-MAP IE 0b0: 1 LRU, 0b1: 2 LRUs
HFA	3	HARQ Feedback Allocation [If ABS assigns HFA implicitly, this parameter is unnecessary.]
Long TTI indicator	1	Indicates number of subframes spanned by the allocated resource. 0b0: 1 subframe (default) 0b1: 4 UL subframes for FDD or all UL subframes for TDD If number of DL subframes, D, is less than number of UL subframes, U, Long TTI Indicator= 0b1
~~Reserved~~	~~TBD~~	
}		
Else if MCRC is masked with RAID and masking indicator for Ranging {		
~~Resource assignment Information~~	~~TBD~~	
Resource start offset (L)	7	When the value (L) is between 0 and 95, this field indicates the start offset of the Resource allocation (LRU). When the value (L) is 127, this field indicates a zero resource

		allocation by this CDMA Allocation A-MAP IE.
Allocation Size	1	Resource size in a subframe which is allocated by this CDMA Allocation A-MAP IE 0b0: 1 LRU, 0b1: 2 LRUs
HFA	3	HARQ Feedback Allocation
Long TTI indicator	1	Indicates number of subframes spanned by the allocated resource. 0b0: 1 subframe (default) 0b1: 4 UL subframes for FDD or all UL subframes for TDD If number of DL subframes, D, is less than number of UL subframes, U, Long TTI Indicator= 0b1
~~Reserved~~	~~TBD~~	
}		
MCRC	16	CRC masked by RA-ID and Masking Indicator
}	—	

Table 744—Description of the Masking Indicator

Masking Indicator	Description
0b0000	MCRC is masked by 12-bit STID
0b0001	MCRC is masked by 12-bit RAID for Ranging
0b0010	MCRC is masked by 12-bit RAID for bandwidth request

3 References

[1] IEEE Std 802.16-2009

[2] IEEE P802.16m/D3, “DRAFT Amendment to IEEE Standard for Local and metropolitan area networks”