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Re:	Contribution on comments to IEEE P802.16e/D8
Abstract	In this contribution, we propose the corrections for nibble alignments in MAP_IEs.
Purpose	Adoption
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Corrections for Nibble Alignment in MAP_IEs

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1. Problem statements

In IEEE P802.16e/D8, some MAP IEs are not nibble aligned during for-loop operation. For fast MAP decoding with low implementation complexity, we need a nibble alignment during for-loop operation in MAP IEs.

Also each Broadcast_Control_Pointer_IE and PUSC_ASCA_Allocation_IE needs to be nibble aligned. But these IEs are not nibble aligned.

2. Proposed Text Changes

[*Modify the corresponding sections as follows:*]

[Modify the Table* 286*f in Page* 282 *of P802.16e/D8 as shown below:]

Table 286f – MIMO in another BS IE

Syntax	Size	Notes
MIMO_in_another_BS_IE () {		
Extended-2 DIUC	4 bits	MIMO in another BS IE = 0x04
Length	8 bits	*variable*
segment	2 bits	Segment number
Used subchannels	6 bits	Used subchannels at other BS Bit #0 : 0-11 Bit #1 : 12-19 Bit #2 : 20-31 Bit #3 : 32-39 Bit #4 : 40-51 Bit #5 : 52-59
IDCell	5 bits	Cell ID of other BS
Num_Region	4 bits	
reserved	3 bits	Shall be set to zero
for (*i*=0 ; *i*<Num_Region ; *i*++) {		

Matrix_indicator	2 bits	STC matrix (see 8.4.8.1.4)
		STC = STC mode indicated in the latest STC_Zone_IE().
		Ant23='2/3 antennas select' as indicated in the latest STC_Zone_IE().
		if (STC==ob01 and Ant23==0) {
		0b00 = Matrix A
		0b01 = Matrix B
		0b10 = Matrix C
		0b11 = *reserved*
		}
		elseif ((STC==0b01 and Ant23==1) or (STC==0b10)) {
		0b00 = Matrix A
		0b00 = Matrix B
		0b00 = Matrix C
		0b00 = *reserved*
		}
		else {
		0b00-0b11 = reserved
		}

OFDMA Symbol offset	8 bits	
Subchannel offset	6 bits	
Boosting	3 bits	Refer to Table 273.
No. OFDMA Symbols	7 bits	
No. Subchannels	6 bits	
Num_layer	2 bits	
reserved	2 bits	Shall be set to zero
for (*j*=0 ; *j*<Num_layer ; *j*++) {		
If (INC_CID == 1) {		
CID	16 bits	
}		
Layer_index	2 bits	
DIUC	4 bits	0-11 burst profiles
reserved	2 bits	Shall be set to zero
}		
}		
Padding	*variable*	Padding to byte; shall be set to 0
}		

[Modify the Table 286g in Page 284 of P802.16e/D8 as shown below:]

Table 286g – Macro MIMO DL Basic IE()

Syntax	Size	Notes
Macro_MIMO_DL_Basic_IE () {		
Extended-2 DIUC	4 bits	Macro MIMO DL Basic IE = 0x05
Length	8 bits	*variable*
segment	2 bits	Segment number

Used subchannels	6 bits	Used subchannels at other BS bit #0 : Subchannel group 0 bit #1 : Subchannel group 1 bit #2 : Subchannel group 2 bit #3 : Subchannel group 3 bit #4 : Subchannel group 4 bit #5 : Subchannel group 5
Num_Region	4 bits	
for (*i*=0 ; *i*<Num_Region ; *i*++) {		
OFDMA Symbol offset	8 bits	
Subchannel offset	6 bits	
Boosting	3 bits	Refer to Table 273.
No. OFDMA Symbols	7 bits	
No. Subchannels	6 bits	
Packet index	4 bits	Packet index for each region

Matrix indicator	2 bits	STC matrix (see 8.4.8.1.4)
		STC = STC mode indicated in the latest STC_Zone_IE().
		Ant23='2/3 antennas select' as indicated in the latest STC_Zone_IE().
		if (STC==ob01 and Ant23==0) {
		0b00 = Matrix A
		0b01 = Matrix B
		0b10 = Matrix C
		0b11 = *reserved*
		}
		elseif ((STC==0b01 and Ant23==1) or (STC==0b10)) {
		0b00 = Matrix A
		0b00 = Matrix B
		0b00 = Matrix C
		0b00 = *reserved*
		}
		else {
		0b00-0b11 = reserved
		}

Num_layer	2 bits	
reserved	2 bits	Shall be set to zero
for (*j*=0 ; *j*<Num_layer ; *j*++) {		
If (INC_CID == 1) {		
CID	16 bits	
}		
Layer_index	2 bits	
DIUC	4 bits	0-11 burst profiles
reserved	2 bits	Shall be set to zero
}		
}		
Padding	*variable*	Padding to byte; shall be set to 0
}		

[Modify the Table* 286*w in Page* 310 *of P802.16e/D8 as shown below:]

Table 286w – Closed-loop MIMO DL enhanced IE

Syntax	Size	Notes
CL_MIMO_DL_Enhanced_IE () {		
Extended-2 DIUC	4 bits	CL_MIMO_DL_Enhanced_IE () = 0x0A
Length	8 bits	Length in bytes
Num_Region	4 bits	
for (*i*=0 ; *i*<Num_Region ; i++) {		
OFDMA Symbol offset	8 bits	
Subchannel offset	6 bits	
Boosting	3 bits	Refer ro Table 273.
No. OFDMA Symbols	7 bits	
No. Subchannels	6 bits	
Matrix indicator	2 bits	Indicates transmission matrix (See 8.4.8) 0b00 = Matrix A (Transmission diversity) 0b01 = Matrix B (Hybrid Scheme) 0b10 = Matrix C (Spatial Multiplexing) 0b11 = Codebook
if (Matrix_indicator != 10) {		
RCID_IE	*variable*	
DIUC	4 bits	
Repetition_Coding_indication	2 bits	
if (Matrix_indicator == 00 or 01) {		

Antenna Grouping Index	3 bits	Indicating the index of the antenna grouping index
		If (Matrix_indicator == 00) {
		000~010 = 0b101110~0b110000 in Table 298c
		} else {
		000~101 = 0b110001~0b110110 in Table 298c
		}

reserved	3 bits	Shall be set to zero
} elseif (Matrix_indicator == 11) {		
Num_stream	2 bits	Indicates number of streams
Codebook Precoding Index	6 bits	Indicates the index of the processing matrix in the codebook
reserved	2 bits	Shall be set to zero
}		
} else {		
Num_MSS	2 bits	Number of MSs who are assigned DL resource when antenna selection is used
reserved	2 bits	Shall be set to zero
for (*j*=0 ; *j*<Num_MSS ; *j*++) {		
RCID_IE	*variable*	
DIUC	4 bits	
Repetition_Coding_indication	2 bits	
Num_stream	2 bits	Indicates the number of stream in Table 316f for 3 Tx antenna and 316g for 4 Tx antenna
Antenna Selection index	3 bits	Indicating the index of antenna selection (See 8.4.8.3.4 and 8.4.8.3.5) 000~010 = 0b110000~0b110010 in Table 317f 000~101 = 0b110000~0b110101 in Table 317g
reserved	1 bit	Shall be set to zero
}		
}		
}		
Padding	*variable*	Padding to byte; shall be set to 0

}		

[Modify the Table **286***x in Page* **312** *of P802.16e/D8 as shown below:]*

Table 286x – Broadcast Control Pointer IE format

Syntax	Size	Notes
Broadcast Control Pointer IE () {		
Extended DIUC	4 bits	FDN = 0x0A
Length	4 bits	Length in bytes
DCD_UCD Configuration Change Counter	4 bits	A composite configuratin change counter incremented for each change in either DCD or UCD
DCD_UCD Transmission Frame	8 bits	The least significant eight bits of the frame number of the next DCD and/or UCD transmission
Skip Broadcast_System_Update	1 bit	
if (Skip Broadcast_System_Update == 0) {		
Broadcast_System_Update_Type	3 bits	Shows the type of Broadcast_Sytem_Update 000 : For NBR_ADV Update 001 : For Emergency Service Message 010-111 : *reserved*
Broadcast_System_Update_Transmission_ Frame	8 bits	The least significant eight bits of the frame number of the next Broadcast_Sytem_Update transmission
} else {		
reserved	3 bits	Shall be set to zero
}		
}		

[Modify the Table **286***z in Page* **316** *of P802.16e/D8 as shown below:]*

Table 286z – PUSC ASCA Allocation

Syntax	Size	Notes
PUSC_ASAC_Alloc_IE () {		
Extended DIUC	4 bits	
Length	4 bits	
DIUC	4 bits	
Short Basic CID	12 bits	12 least significant bits of the Basic CID
OFDMA Symbol offset	8 bits	
Subchannel offset	6 bits	
No. OFDMA Symbols	7 bits	
No. Subchannels	6 bits	
Repetition Coding Information	2 bits	0b00: No repetition coding 0b01: Repetition coding of 2 used 0b10: Repetition coding of 4 used 0b11: Repetition coding of 6 used
Permutation ID	4 bits	
reserved	7 bits	Shall be set to zero
}		

[Modify the Table 302g in Page 355 of P802.16e/D8 as shown below:]

Table 302g – MIMO UL Enhanced IE

Syntax	Size	Notes
MIMO_UL_Enhanced_IE () {		
Extended-2 UIUC	4 bits	MIMO_UL_Enhanced_IE = 0x06
Length	8 bits	Length in bytes
Num_Assign	4 bits	Number of burst assignment
for (*j*=0 ; *j*<Num_assign ; *j*++) {		
Num_CID	2 bits	
for (*i*=0 ; *i*<Num_CID ; *i*++) {		
CID	16 bits	MS basic CID
UICU	4 bits	
Matrix_Indicator	1 bit	For MS with dual antenna 0 :Matix A (STTD, see 8.4.8.4.3) 1 :Matix B (SM, see 8.4.8.4.3) For MS with single antenna, skip this field.
Pilot Pattern Indicator	1 bit	For MS with single antenna 0 : pilot pattern A 1 : pilot pattern B For MS with dual antenna (for PUSC only) 0 : pilot pattern A/B 1 : pilot pattern C/D
reserved	2 bits	Shall be set to zero
}		
Duration	10 bits	In OFDMA slots (see 8.4.3.1)
}		
Padding	*variable*	shall be set to 0
}		