
Project **IEEE 802.16 Broadband Wireless Access Working Group** <<http://ieee802.org/16>>

Title Correction on Dedicated MIMO DL Control IE Format

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Submitted

Source(s) Chan-Byoung Chae, Mihyun Lee, Panyuh Joo Voice: +82-31-279-4828
FAX. : +82-31-279-5130
Samsung Electronics Co. Ltd. cb.chae@samsung.com

Re: IEEE 802.16-2005/D9

Abstract The document contains the clarification for stream, layer and burst.

Purpose Adoption of proposed changes into P802.16-2005/D9

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Correction on Dedicated MIMO DL Control IE Format

(Reply Comment #6214)

1. Problem statement

Comment #5441 in last meeting BRG was accepted. But it is not correctly reflected on IEEE802.16e/D9. [Delete line 8 - line 49 in page 306 within Table 286t] in #5441 in last meeting BRG, but editor deleted line 8 (page 306) ~ line 35 (page 307) in 16e/D9.

2. Proposed Remedy

[Modify the following Table 286t of D9 as following]

Table 286t-Dedicated MIMO DL Control IE format

Syntax	Size (bits)	Notes
Dedicated MIMO DL Control IE() {		
Length	5 bits	Length of following control information in Nibble.
Control header	3 bits	Bit #0 : MIMO Control Info Bit #1 : CQI Control Info Bit #2 : Closed MIMO Control Info
N_layer	2 bits	Number of coding/modulation layers 00 = 1 layer 01 = 2 layers 10 = 3 layers 11 = 4 layers
if(MIMO Control Info == 1){		
Matrix	2 bits	Indicates transmission matrix (See 8.4.8) 0b00 = Matrix A 0b01 = Matrix B 0b10 = Matrix C 0b11 = Codebook
if (Dedicated Pilots == 1) {		Dedicated Pilots field in STC_Zone_IE()

Num_Beamformed_Streams	2 bits	Indicates the number of beamformed streams which is equal to the number of pilot patterns 00 = 1 stream 01 = 2 streams 10 = 3 streams 11 = 4 streams
}		
}		
If(CQICH Control Info == 1){		
Period	3 bits	Period (in frame) = 2^{period}
Frame offset	3 bits	
Duration	4 bits	A CQI feedback is transmitted on the CQI channels indexed by the CQICH_ID for 10×2^d frames.
For (j=0;N_layer+1;j++) {		
Allocation index'	6 bits	Index to CQICH assigned to this layer.
}		
CQICH_Num	2 bits	Number of additional CQICHs assigned to this SS (0-3)
for (i=0; i<CQICH_Num; i++) {		
Feedback type	3 bits	Type of feedback on this CQICH
Allocation index	6 bits	
}		
}		

<u>if(Closed MIMO Control Info == 1){</u>		
<u>if(MIMO Control Info==1) {</u>		
<u>MIMO mode = Matrix</u>		
<u>} Else {</u>		
<u>MIMO mode = Matrix in STC_Zone_IE()</u>		
<u>}</u>		
<u>If (MIMO mode == 00 or 01) {</u>		
<u>Antenna Grouping Index</u>	<u>3 bits</u>	<u>Indicates the index of antenna grouping See 8.4.8.3.4 and 8.4.8.3.5 If(Matrix_indicator == 00) 000~010 = 0b101110~0b110000 in Table 298c else 000~101 = 0b110001~0b110110 in Table 298c</u>
<u>} elseif (MIMO mode == 10) {</u>		
<u>Num_stream</u>	<u>2 bits</u>	<u>Indicates the number of streams in Table 316f for 3 Tx and Table 316g for 4 Tx.</u>
<u>Antenna Selection Index</u>	<u>3bits</u>	<u>Indicates the index of antenna selection See 8.4.8.3.4 and 8.4.8.3.5 000~110 = 0b110000~0b110101 in Table 298d</u>
<u>} elseif (MIMO mode == 11) {</u>		
<u>Num_stream</u>	<u>2bits</u>	<u>Indicates number of streams</u>
<u>Codebook Precoding Index</u>	<u>6 bits</u>	<u>Indicates the index of precoding matrix W in the codebook See 8.4.8.3.6</u>

}		
}		
<i>Padding</i>	<i>Variable</i>	Padding to Nibble; shall be set to 0
}		