Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	Clarification for stream, layer and burst
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Re:	IEEE 802.16-2004/Cor1/D3

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

Purpose	Adoption of proposed changes into P802.16-2004/cor1/D3

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Clarification for stream, layer and burst (Reply Comment #279)

1. Problem statement

 The confusion mentioned in the comment 279 has been caused by the following reason:

'Layer' terms were used in Table 283, IEEE P802.16-REVd/D5-2004. But those had been changed into 'burst' terms in Table 283, IEEE P802.16-2004/Cor1/D2. During these processes, some terms remain without change and used without definition (see Num_Streams in line 64 on page 111 and line 11 on page 112).

 And we can find layer terms which are used without definition in IEEE P802.16-2004/Cor1/D3 (see line 36-38 on page 128, Figure 230a and line 2 on page 133). Even though 'layer' terms have been changed into 'burst' terms, we still need to define layer.

In addition, Num_Burst has been miswritten with Num_Streams in line 64 on page 111 and in Table 283a on page 111~112.

 And, please see line 60~64 on page 111 in IEEE P802.16-2004/Cor1/D3.

"Table 283a defines the modes of operation specified by MIMO_DL_Basic_IE() and MIMO_DL_Enhanced_IE(). For each it details: the number of antennas (as indicated by the latest STC_DL_ZONE_IE()), the type of matrix, the number of encoded streams, the number of different CIDs stated in the Num_Streams 'for' loop; the implicit type and rate of coding."

It is known that 'the number of encoded streams' is identically same with 'the number of different CIDs'. In addition, 'the number of different CIDs' is same with 'Num_layers'. Consequently, we can change 'Num_Streams' in line 64 on page 111 and line 11 on page 112 into 'Num_layers'. Note that 'Num_Streams' is not defined nor used for loop in Table 283.

 In order to avoid these confusions about layer, burst and stream, 'Num_burst' can be re-changed into 'Num_layer'. Then, we need to insert the definition of layer (which is written under Table 286t in 8.4.5.3.21.1, IEEE P802.16e/D9).

 In Table 283a, the 7th column is related with 'the number of encoded streams' which is written in line 64 on page 111. In order to avoid remaining ambiguity, all terms of 'stream' within the 7th column in Table 283a can be changed into 'encoded stream'.

2. Proposed Remedy

[Change the text in Table 283 and Table 284 (section 8.4.5.3.8 and section 8.4.5.3.9) as following]

In line 24 on page 111: ~~Num_bursts~~ Num_layers

In line 27 on page 111: ~~Num_bursts~~ Num_layers

In line 35 on page 111: ~~Burst_index~~ Layer_index

In line 60 on page 114: ~~Num_burst~~ Num_layers

In line 64 on page 114: ~~Num_burst~~ Num_layers

In line 14 on page 115: ~~Burst_index~~ Layer_index

[Modify the text in line 51~55 page 111 (section 8.4.5.3.8) as following]

~~Num_bursts~~

~~Number of overlapping bursts allocated in the region.~~

~~Burst_index~~

This field specifies the burst index.

Num_layers

Number of individually encoded streams allocated in the region. The layer is defined as a separate coding/modulation path.

Layer_index

This field specifies the layer index.

[Modify the text in line 61~64 page 111 (section 8.4.5.3.8) as following]

For each it details: the number of antennas (as indicated by the latest STC_DL_ZONE_IE()), the type of matrix, the number of encoded streams, the number of different CIDs stated in the Num_Streams 'for' loop; (i.e., the number of different CIDs stated in the Num_layers 'for' loop in Table 283), the implicit type and rate of coding.

[Modify the text in line 11 on page 112 and line 5 on page 113 (section 8.4.5.3.8) as following]

Num_Streams Num_layers

[Modify the text in Table 283a page 112~113 (section 8.4.5.3.8) as following (Within the 7th column in Table 283a, 'stream' is replaced by 'encoded stream')]

In line 11 on page 112: Mapping of Stream to matrix entries Mapping of encoded stream to matrix entries

In line 15 on page 112: Stream Encoded stream

In line 17 on page 112: Stream Encoded stream

In line 20 on page 112: Stream Encoded stream

In line 22 on page 112: Stream Encoded stream

In line 25 on page 112: Stream Encoded stream

In line 27 on page 112: Stream Encoded stream

In line 30 on page 112: Stream Encoded stream

In line 34 on page 112: Stream Encoded stream

In line 38 on page 112: Stream Encoded stream

In line 41 on page 112: Stream Encoded stream

In line 44 on page 112: Stream Encoded stream

In line 48 on page 112: Stream Encoded stream

In line 5 on page 113: Mapping of Stream to matrix entries Mapping of encoded stream to matrix entries

In line 9 on page 113: Stream Encoded stream

In line 13 on page 113: Stream Encoded stream

In line 15 on page 113: Stream Encoded stream

In line 17 on page 113: Stream Encoded stream

In line 19 on page 113: Stream Encoded stream

In line 22 on page 113: Stream Encoded stream

In line 24 on page 113: Stream Encoded stream

In line 25 on page 113: Stream Encoded stream

In line 26 on page 113: Stream Encoded stream

[Modify the text in Table 283a page 112~113 (section 8.4.5.3.8) as following (Within the 8th column in Table 283a, 'bursts' is

replaced by 'layers')]

In line 23 on page 112: ~~bursts~~ layers

In line 27 on page 112: ~~bursts~~ layers

In line 40 on page 112: ~~bursts~~ layers

In line 47 on page 112: ~~bursts~~ layers

In line 15 on page 113: ~~bursts~~ layers

In line 24 on page 113: ~~bursts~~ layers

[Modify the text in line 38~42 page 115 (section 8.4.5.3.9) as following]

~~Num_bursts~~

~~Number of overlapping bursts allocated in the region.~~

~~Burst_index~~

~~This field specifies the burst index.~~

Num_layers

Number of individually encoded streams allocated in the region. The layer is defined as a separate coding/modulation path.

Layer_index

This field specifies the layer index.

[Insert the text in line 40 page 128 (section 8.4.5.4.10.1) as following]

The layer is defined as a separate coding/modulation path.