IEEE P802.11  
Wireless LANs

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| Comment Resolution on CIDs | | | | |
| Date: 2017-11-06 | | | | |
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Abstract

This submission proposes resolution of comment received from TGay comment collection (TGay Draft 0.3).

- CIDs: 82, 101, 182, 373, 374, 478, 479

1. **Introduction**

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGay Draft. The introduction and the explanation of the proposed changes are not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGay Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGay Editor: Editing instructions preceded by “TGay Editor” are instructions to the TGay editor to modify existing material in the TGay draft. As a result of adopting the changes, the TGay editor will execute the instructions rather than copy them to the TGay Draft.***

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 82 | 40 | 6 | We should allow for Short SWW feedback to indicate whether this was best in terms of SNR or LOS/NLOS. Perhaps use the Reserved bit to indicate this. | Use Reserved bit to indicate LOS or SNR as the criteria used | Reject.  SNR field already exists in the SSW Feedback field. And the indication of LOS/NLOS is depending on STA's capabilities. Therefore it is supported in the EDMG BRP field as the First Path Training field. |

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 101 | 66 | 10 | It is not clear that any changes have been made here to address the single hop requirement of >2 Gbps with distances up to 1 km (see 11-15-625-03). | As in comment | Reject.  This is for supporting the usage model 8(wireless backhauling).  The reachable distance is depending on the antenna's performance. It is an implementaion issue. |

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 182 | 40 |  | RF chains if Extension flag is 1 should be 8 so 3 bits. Sector IDs extension 4 bits. | There should be clarified whether RF chain will be 2 or 3 bits and CDOWN 10 or 11. Comment valied for SSWs as well as channel measurement feedbacks. | Accept.  All RF chain ID fields are modified to 3 bits in the Draft 0.8.  Therefore, when the short-SSW packet is used in SLS, the corresponding SSW- Feedback/ACK frame should indicate RF chain ID as 3bits if Extension flag is set to 1.  On the other hands, EDMG channel measurement feedback element indicates RF chain ID as 3bits. |

* + 1. Sector Sweep Feedback field

When the SSW Feedback field is transmitted as part of an ISS, the format of the field is as shown in Figure 9-637. When the SSW Feedback field is transmitted as part of an RSS, the format of the field is as shown in Figure 52. ~~Otherwise~~ In all other cases, the format of the SSW Feedback field is as shown in Figure 9-638.

*Change Figure 9-637 as follows*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B8 | B9 B10 | B11 B15 | B16 | B17 B21 ~~B23~~ | B22 | B23 |
|  | Total Sectors in ISS | Number of RX DMG Antennas | Reserved | Poll Required | Reserved | Unsolicited RSS Enabled | Reserved |
| Bits: | 9 | 2 | 5 | 1 | ~~7~~5 | 1 | 1 |

*Insert the following figure after Figure 9-637*

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B5 | B6 B7 | B8 B15 | B16 | B17 B21 | B22 | B23 |
|  | Sector Select | DMG Antenna Select | SNR Report | Poll Required | Sector Select MSB | DMG Antenna Select  MSB | EDMG Extension Flag |
| Bits: | 6 | 2 | 8 | 1 | ~~7~~5 | 1 | 1 |

1. —SSW Feedback field format when transmitted as part of an RSS

*Change Figure 9-638 as follows*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B5 | B6 B7 | B8 B15 | B16 | B17 B21 | B22 | B23 |
|  | Sector Select | DMG Antenna Select | SNR Report | Poll Required | Sector Select MSB | DMG Antenna Select  MSB | EDMG Extension Flag |
| Bits: | 6 | 2 | 8 | 1 | ~~7~~5 | 1 | 1 |

*Insert “* or RSS*” at the end of the caption of Figure 9-638*

*Change the fourth and fifth paragraphs and insert new ones as follows*

The EDMG Extension Flag subfield is 0 when the Sector Sweep Feedback field is transmitted within a SSW frame, and when transmitted within an SSW-Feedback and SSW-Ack frame sent in response to an ISS or an RSS that used the SSW frame. Otherwise, the EDMG Extension Flag subfield is 1.

The selected sector depends on the value of the EDMG Extension Flag subfield.

If the EDMG Extension Flag subfield is 0, t~~T~~he Sector Select subfield contains the value of the Sector ID subfield of the SSW field within the frame that was received with best quality in the immediately preceding sector sweep. The determination of which packet was received with best quality is implementation dependent. ~~Possible values of this subfield range from 0 to 63.~~

If the EDMG Extension Flag subfield is 1, the Sector Select MSB subfield is prepended to the Sector Select subfield to form a single 11 bits subfield representing the value of the CDOWN field within the Short SSW packet that was received with best quality in the immediately preceding sector sweep. The determination of which packet was received with best quality is implementation dependent.

The selected DMG antenna depends on the value of the EDMG Extension Flag subfield.

If the EDMG Extension Flag subfield is 0, t~~T~~he DMG Antenna Select subfield indicates the value of the DMG Antenna ID subfield of the SSW field within the frame that was received with best quality in the immediately preceding sector sweep. The determination of which frame was received with best quality is implementation dependent.

The Unsolicited RSS Enabled subfield is set to 1 to indicate that the STA is capable of receiving an unsolicited RSS and completing the SLS with any other STA that opportunistically receives this ISS or RSS, but that is not the STA addressed by this ISS or RSS (see 10.38.6.2). This subfield is set to 0 otherwise.

If the EDMG Extension Flag subfield is 1, the DMG Antenna Select MSB subfield is prepended to the DMG Antenna Select subfield to form a single 3 bits subfield representing the value of the RF Chain ID field within the Short SSW packet that was received with best quality in the immediately preceding sector sweep. The determination of which packet was received with best quality is implementation dependent.

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 373 | 65 | 29 | It is not clear how beam tracking feedack in EDMG channle measurement feedback element is produced based on the procedures in 10.38.7. For example, how NTx is related to the BRP-TX packet which requests beam tracking, how to order of the awv combinations to feedback | clarify the procedures to produce the beam tracking feedback field in EDMG channel measurement feedback element for transmit beam tracking  Define a field in header-A to signal NTx in case the NTx in TRN is different from the number of spatial streams in the Data portion | Reject.  The signaling of NTx is included in the EDMG Header-A in the draft 0.8. |

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 374 | 65 | 33 | In the baseline following this paragraph:  "A beam tracking responder that receives a packet with the Beam Tracking Request field in the PHY header equal to 0, the Training Length field in the PHY header equal to a nonzero value and the Packet Type field in the PHY header equal to 0 shall follow the rules described in 20.10.2.2 and may use the beam refinement AGC field and TRN-R subfields appended to the received packet to perform receive beam training."  A non-beam-tracking related EDMG PPDU could satisfy the above criteria for the received packet because transmitter sets Training Length>0 in L-header to satisfy packet length spoof accuray requirement. It should be clarified in the paragraph above that the received PPDU is a DMG PPDU. | reword the baseline paragraph and insert to 11ay draft:  A beam tracking responder that receives a DMG PPDU with the BEAM\_TRACKING\_REQUEST parameter in the RXVECTOR set to Beam Tracking Not Requested, TRN-LEN equal to a nonzero value and the Packet Type equal to TRN-R\_PACKET shall follow the rules described in 20.10.2.2 and may use the beam refinement AGC field and TRN-R subfields appended to the received packet to perform receive beam training | Reject.  The proposed change can be supported in the draft 0.8.  There are two types of beam tracking parameter in the RXVECTOR  (BEAM\_TRACKING\_REQUEST parameter and EDMG\_BEAM\_TRACKING\_REQUEST parameter). |

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 478 | 80 | 10 | An EDMG STA may support the channel-wise DL FDMA (30.1.1 Introduction to the EDMG PHY). Therefore, the beamforming protocol of channel-wise DL FDMA should be defined. | Define beamforming protocol of channel-wise DL FDMA. | Reject  The FDMA feature is not supported in 11ay. |

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| CID | Page Number | Line Number | Comment | Proposed Change | Resolution |
| 479 | 80 | 10 | An EDMG STA may support the channel-wise DL FDMA (30.1.1 Introduction to the EDMG PHY). Therefore, the resource allocation of channel-wise DL FDMA should be defined. | Define resource allocation of channel-wise DL FDMA. | Reject  The FDMA feature is not supported in 11ay. |

**References:**

[1] IEEE 802.11ay D0.3

[2] IEEE 802.11ay D0.8

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**Straw Poll & Motion:**

* **Do you agree to accept comment resolution as proposed in doc 11-17-1660-00-00ay-Comment Resolution on CIDs (82, 101, 182, 373, 374, 478, 479)?**