IEEE P802.11
Wireless LANs

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| LB231 BF Comment Resoution I |
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Abstract

This document suggests resolution for CIDs 1472, 1484, 1487, 1488, 1634, 1689, 1690, 1866, 2184, 2300, 2301, 2302, 2303

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| 1472 | 104.26 | 10.3.2.3.11 | TXTIME(Short SSW) is not defined anywhere. | Define TXTIME(Short SSW). |

Proposed Resolution: **Revise**

Discussion:

The SSW packet is defined as a control PHY packet. The TXTIME calculation of the packet as defined in 20.12.3 (802.11-2016), works correctly. However, the text for LDPC encoder for control mode PHY has errors (such as divide by 0) when the packet length is 6, we propose to fix this text.

***TGay Editor: Insert the following before clause 30:***

**20.4.3.3.3 Encoder**

***Editor: Modify steps 4,5 in the LDPC encoding as follows:***

4) If ~~T~~the number of bits in the second and any subsequent LDPC codeword (if present), except the last, is

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5) If ~~T~~the number of bits in the last LDPC codeword is .

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| 1484 | 149.31 | 10.38.3.1 | Clarify that use of BRP is not mandatory. If a STA has sufficient link margin, why use it? | Change "uses" to may use. |

Proposed Resolution: **Accept**

Discussion:

BRP is mandatory, however, the choice of whether to use it is up to the device, hence “may use” is more appropriate.

***TGay Editor: Modify P149l30 as follows:***

Prior to transmitting an EDMG PPDU on a 4.32 GHz, 6.48 GHz, 8.64 GHz, 2.16 + 2.16 GHz or 4.32 + 30 4.32 GHz channel, an EDMG STA may use the BRP phase described in this subclause or the BRP TXSS protocol defined in 10.38.9.5 to perform beamforming training over the channel.

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| 1487 | 158.33 | 10.38.6.4.1 | "The number of valid AWV feedback IDs in the ShortBRP Feedback field shall be 16 unless ((N-TRN├ùTRN-M)/TRN-N) < 16, where N-TRN, TRN-M andTRN-N are the values of the EDMG\_TRN\_LEN, EDMG\_TRN\_M and EDMG\_TRN\_N parameters,respectively, in the RXVECTOR of the transmit beam refinement training request." What is the number of valid AWV feedback IDs when ((N-TRN├ùTRN-M)/TRN-N) >= 16? | Add text to cover both cases. |

Proposed Resolution: **Revised**

***TGay Editor: Modify P158L31-36 as follows***

An EDMG STA responding to a transmit beam refinement training request in which the EDMG-SHORT-BRP subfield was equal to 1 shall respond with a BRP frame that has the EDMG-SHORT-BRP subfield set to 1 and the EDMG-SHORT-FBCK subfield set to 1. The number of valid AWV feedback IDs (in the Short BRP Feedback field shall comply with the following equaltion:

 where N-TRN, TRN-M and TRN-N are the values of the EDMG\_TRN\_LEN, EDMG\_TRN\_M and EDMG\_TRN\_N parameters, respectively, in the RXVECTOR of the transmit beam refinement training request.

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| 1488 | 159.11 | 10.38.6.4.1 | From this text "If the feedback is for a TXSS performed with a BRP-TX PPDU, theNumber of Measurements subfield of the FBCK-TYPE field is at least the minimum of {16, N-TRN-SB},where N-TRN-SB = ((N-TRN├ùTRN-M)/TRN-N) and N-TRN, TRN-M and TRN-N are the values of theEDMG\_TRN\_LEN, EDMG\_TRN\_M and EDMG\_TRN\_N parameters, respectively, in the RXVECTORof the received BRP-TX PPDU." it looks like it may be possible to have N-TRN-SB be less than 16, but the number of measurements sub-field is set to 16. So, in that case there will be dummy measurements. How are these encoded in the response? | Clarify how the response is constructed in this case. |

Proposed Resolution: **Reject**

Discussion: Clause 9.5.8 (P92L16) clearly defines how an invalid (dummy) Sector Measurement subfield is encoded.

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| 1634 | 159.46 | 10.38.6.4 | It is uncertain whether DMG TRN can be used for channel bonding and MIMO BF. | The clarification is needed. |

Proposed Resolution: **Revised**

Discussion:

The text has a bug in L41-43 in the fact that the bit that shall not be set is the capability bit and the header bit (as it may be transmitting to a STA that does not have these capabilities and requested DMG\_TRN). The SISO qualifier is added at L46.

***TGay Editor: Modfiy the text at P159L41-48 as follows***

An EDMG STA that supports 6.48 GHz, 8.64 GHz, 2.16+2.16 GHz or 4.32+4.32 GHz PPDU transmission shall not set the DMG TRN RX Only Capable subfield in the STA’s EDMG Capabilities element to one. Otherwise, the STA may set the DMG TRN RX Only Capable subfield to one.

A 4.32 GHz EDMG PPDU transmission that includes the TRN field shall have the DMG\_TRN parameter of the TXVECTOR set to zero.

A 2.16 GHz EDMG SISO PPDU transmission that includes the TRN field and is addressed to a STA that has the DMG TRN RX Only Capable subfield set to one in the STA’s EDMG Capabilities element shall have the DMG\_TRN parameter of the TXVECTOR set to one and the EMDG\_TRN\_LEN parameter of the

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| 1689 | 48.02 | 9.4.2.130 | EDMG BRP TX packet is not defined | Define EDMG BRP-TX packet |
| 1690 | 48.02 | 9.4.2.130 | "EDMG BRP-RX/TX packet as defined in 30.9.2.2.5" There is not a proper definition of BRP-RX/TX packet. | Define EDMG BRP-RX/TX packet |

Proposed Resolution: Revise

Discussion:

EDMG BRP packet (of all types) are well defined in 30.9.2.2. Possibly we should change the reference to 30.9.2.2.

***TGay Editor: Modify P48L2 as follows***

in the last received EDMG BRP-TX packet or EDMG BRP-RX/TX packet as defined in 30.9.2.2. If the

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| 1866 | 47.05 | 9.4.2.130 | This clause discusses the TRN subfields transmitted with the same AWV that were received with the "best quality" . Best quality is referred to in other clauses of the draft and it's used as a metric in decision process. It's implementation dependent and nowhere in the draft does it call out what parameters are used in the "best quality" decision making process. | Define the term or example metrics for best quality. |

Proposed Resolution: **Reject**

Disucssion:

The ambiguity in the definition of “best quality” is intended. A receiving STA will define which sector is received with best quality as this best quality will define what it is going to get during data transmission. It is not necessary for the transmitter of the sector sweep to know how the best quality was defined.

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| 2184 | 47.12 | 9.4.2.130 | Figure 9-512 doesn't align with text. BS-FBCK MSB field shows 5 bits in Figure 9-512 an the text on line 17 states the BS-FBCK MSB is reserved. Update with correct number of bits. | Fix as commented. |

Proposed Resolution: **Reject**

Discussion:

The text clrealy states that when the EDMG Extension Flag is set to 1 the BS-FBCK MSB field is prepended to the BS-FBCK field to form a single BS-FBCK field of size 11bits. Only if it is not set to 1 the BS-FBCK MSB field is reserved.

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| 2300 | 158.07 | 10.38.6.3.3 | L-RX subfield in BRP request field is defined as 1/4 of the number of rx awv tested | RX\_TRN\_PER\_TX\_TRN set to a value equals to 4 times the value of L-RX subfield |

 Proposed resolution: **Reject**

Discussion:

Although it is not immediately clear from the text in 9.5.4[[1]](#footnote-1), L-RX is requesting TRN Units, which is the same thing RX\_TRN\_PER\_TX\_TRN defines. It is true that 11ay provide a richer set of choices for number TRN subfields to per TRN unit, but it is impossible to fix the BRP request field to deal with that. The EDMG BRP request element does contain the information, however, it cannot be sent within a sector sweep packet.

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| 2301 | 158.14 | 10.38.6.3.3 | TX sector ID should be awv feedback id in case of BRP-RX/TX | add 'or awv feedback id' in a) |

Proposed Resolution: **Revise**

***TGay Editor: Modify the following text in P158L14-15***:

pattern to receive this frame. The feedback included in this BRP frame should be (a) the BS-FBCK field set to the TX sector ID or the AWV ID (if an EDMG-TX or EDMG-RX/TX packet was used) of the BRP-RX packet received with the highest link quality, and (b) the ordered list of

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| 2302 | 158.32 | 10.38.6.4.1 | short BRP in response to a short BRP requesting TX beam refinement should be sent within MBIFS, similar to the case of responding to a short BRP with TXSS-FBCK-REQ described in the next page | add 'within MBIFS' after 'shall respond' |

Proposed Resolution: **Accept**

***TGay Editor: Modify the text in 158.32 as follows:***

BRP subfield was equal to 1 shall respond within MBIFS with a BRP frame that has the EDMG-SHORT-BRP subfield set

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| 2303 | 159.12 | 10.38.6.4.1 | BRP TXSS may have multiple BRP-TX packets while N-TRN-SB is based on 1 BRP-TX packet | revise N-TRN-SB to account for multiple BRP packets |

Proposed Resolution: **Revise**

***TGay Editor: Modify the text in P159L13-15 as follows:***

where N-TRN-SB = ((N-TRN×TRN-M)/TRN-N) and TRN-M and TRN-N are the values of the EDMG\_TRN\_M and EDMG\_TRN\_N parameters, respectively, in the RXVECTOR of the received BRP-TX PPDUs and N-TRN is the sum of the EDMG-TRN-LEN parameter in RXVECTOR of the BRP-TX PPDUs over which the TXSS was performed.

**Strawpoll:** Do you agree to the resolution of CIDs 1472, 1484,1487,1634, 1689, 1690, 1866, 2184, 2300, 2301, 2302, 2303 as described in 11-18-0323-00-0ay-LB231-BF-Coment-Resolution-I?

1. The text in 9.5.4 predates the definition of TRN-Unit which was added during the work on inserting 11ad into 11mc. [↑](#footnote-ref-1)