IEEE P802.11  
Wireless LANs

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| LB 187 Miscellaneous Comment Resolution | | | | |
| Date: 2012-04-26 | | | | |
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Abstract

This document include proposed resolutions to CIDs 4231, 4232, 5029, and 4976

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| 4231 | 2.43 | 3.1 |  | MU-MIMO can also be used for DLS/TDLS between non-AP stations. A Non-AP STA may transmit MU-MIMO to other STAs provided that it has DLS established with these STAs. The DLS MU-MIMO is a one-to-many transmission could reuse current DL MU-MIMO mechanism in 11ac draft 2.0. | Add a definition for DLS MU-MIMO, as "(T)DLS MU-MIMO: A MU-MIMO technique by which an non-AP STA transmits a physical layer convergence procedure (PLCP) protocol data unit (PPDU) to multiple receiving non-AP stations (STAs) via a (T)DLS channel" |

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| 4232 | 8.63 | 4.3.10a |  | Non-AP STA can also support VHT transmit beamforming sounding and MU PPDUs. There is no such definitions in current 802.11ac draft 2.0 | Add a description about "The support for VHT transmit beamforming sounding and MU PPDUs in a non-AP STA |

**Proposed resolution:** Rejected.

802.11ac does not support MU-MIMO transmissions by a non-AP: because

1. Only the AP is able to perform GroupID management.
2. The protocol does not support multiple Group membership maps. Multiple “group map owners” might assign the same STA to different users of the same Group ID – creating a potential conflict as to which user to receive when receiving an MU-MIMO transmission.

Because the protocol does not support the notion of a DLS or TDLS STA transmitting an MU-MIMO PPDU, the proposed addition is both unnecessary and misleading.

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| 5029 | 28.12 | 8.2.4.3.8 |  | It is mentioned that individual/group bit is of the TA field with the value 1 is signaling. It is not clear what signaling is it. Is it that this signaling is expected to be used for other purpose that bandwidth signaling? | change to bandwidth signaling. |

Context:

The TA field contains an IEEE MAC ~~individual~~ address that identifies the STA that has transmitted, onto the WM, the MPDU contained in the frame body field. If the Individual/Group bit is 0, then the TA field is the individual address of the STA; otherwise the TA field is a signaling TA, indicating that the frame caries additional information in the scrambling sequence (see 8.3.1.2 (RTS frame format

)

**Proposed Resolution**: Revised

Signaling TA indicates that the frame carries additional information in the scrambling sequence. The additional information describes bandwidth parameters reated to the transmitter. Therefore it is appropriate to change “signalling TA” to “bandwidth-signalling TA” through out the whole document.

Proposed Chnages:

Change “signalling TA” to “bandwidth-signalling TA” through out the whole document.

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| 4976 | 32.13 | 8.2.4.6.3 |  | in Table 8-13a, the range of the MSI is set from 0-6. It doesn't seem there is any reason not to extend the range to 0-7 | Extend the MSI range to 0-7 |

Context:

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| MSI/STBC | MRQ sequence identifier/STBC indication | If the Unsolicited MFB subfield is 0 and the MRQ subfield is 1, the MSI/STBC subfield contains a sequence number in the range 0 to 6 that identifies the specific request.  If the Unsolicited MFB subfield is 0 and the MRQ subfield is 0, the MSI/STBC subfield is reserved.  If the Unsolicited MFB subfield is 1, the MSI/STBC field contains the Compressed MSI and STBC Indication subfields as shown in Figure 8-8b.  The STBC Indication subfield(#4023) contains:  Set to 0 if STBC is not transmitted  Set to 1 if STBC is transmitted  The Compressed MSI contains a sequence number that identifies the specific request. It is in the range 0 to 3 if STBC Indication equals 0 or in the range 0 to 2 if STBC Indication equals 1. |

**Proposed Resolution**: Revised

The range of MSI from 0-6 was inherited from 802.11n where I think MSI =7 was reserved for unsolicited feedback. Now that we have an explicit indication for unsolicited feedback, we probably can extend the range to 0-7.

Proposed Changes:

*TGac Editor: The following changes are based on Draft 2.0 of 11ac:*

**8.2.4.6.3 VHT variant**

*Change the third row of Table 8-13a as follows:*

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| --- | --- | --- |
| MSI/STBC | MRQ sequence identifier /STBC indication | If the Unsolicited MFB subfield is 0 and the MRQ subfield is 1, the MSI/STBC subfield contains a sequence number in the range 0 to ~~6~~ 7 that identifies the specific request.  If the Unsolicited MFB subfield is 0 and the MRQ subfield is 0, the MSI/STBC subfield is reserved.  If the Unsolicited MFB subfield is 1, the MSI/STBC field contains the Compressed MSI and STBC Indication subfields as shown in Figure 1-8b.  The STBC Indication subfields contains:  Set to 0 if STBC is not transmitted  Set to 1 if STBC is transmitted  The Compressed MSI contains a sequence number that identifies the specific request. It is in the range 0 to 3 ~~if STBC Indication equals 0 or in the range 0 to 2 if STBC Indication equals 1~~. |

*Change the fourth row of Table 8-13b as follows:*

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| BW | Bandwidth of the recommended MCS | If the Unsolicited MFB subfield is 1, the BW subfield indicates the bandwidth for which the recommended MCS is intended, as defined in 9.28.3 (Link adaptation using the VHT variant HT Control field). BW subfield is set to 0 for 20 MHz, 1 for 40 MHz, 2 for 80 MHz, 3 for 160 MHz and 80+80 MHz. If the Unsolicited MFB subfield is 0 and MCS = 15, N\_STS = 7, BW subfield is setting as defined in 9.28.3 (Link adaptation using the VHT variant HT Control field), otherwise BW subfield is reserved. |

9.28.3 Link adaptation using the VHT variant HT Control field

*Change the paragraph in page 122, line 31 as follows:*

The MFB requester may set the MRQ field to 1 in the VHT variant HT Control field of a frame to request a STA to provide MCS, N\_STS and SNR feedback. In each request, the MFB requester shall set the MSI field to a value in the range 0 to ~~6~~ 7. The choice of MSI value is implementation dependent.

*Change the paragraphs in page 123, line 12 as follows:*

The MFB responder may send a solicited response frame with any of the following combinations of MCS, N\_STS and MFSI:

* MCS = 15, N\_STS = 7 in the MFB subfield, ~~MFSI = 7~~ BW = 3: no information is provided for the immediately preceding request or for any other pending request. This combination is used when the responder is required to include a VHT variant HT Control field due to other protocols that use this field (i.e., the Reverse Direction Protocol) and when no MFB is available. It has no effect on the status of any pending MRQ.
* MCS = 15, N\_STS = 7 in the MFB subfield, MFSI in the range 0 to ~~6~~ 7, BW≠3: the responder is not now providing, and will never provide, feedback for the request that had the MSI value that matches the MFSI value.
* MFB contains valid MCS and N\_STS, MFSI in the range 0 to ~~6~~ 7: the responder is providing feedback for the request that had the MSI value that matches the MFSI value.

**References:**