IEEE P802.11  
Wireless LANs

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| **Proposed Resolutions to Miscs PHY and MAC CIDs** |
| **Date:** 2018-11-09 |

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Abstract

This submission proposes resolutions for the following comments from the letter ballot LB233 on P802.11ax D3.0

* 16557, ~~16570~~, 16571, 16573, 16574, 16575, 16579, 16580

This revision (r5) incorporated feedbacks and comments received during the 11ax conference call on Dec 13th, 2018. In particicular, participants present at the conference call requested further clarifications on the resolutions of CIDs 16571, 16579 and 16580

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| **CID** | **Sub Clause** | **PP.LL** | **Comment** | **Proposed Change** | **Resolution** |
| 16557 | 27.16.2.2.2 | 374.29 | There is potentially a technical issue with the rule for reporting the status of BSS color collision. Based on this paragraph, starting from line 28, once the AP sets the Color Disabled bit to 1 in HE Operation Element that it transmits, the non-AP HE STA does not report the BSS color collision even if it no longer exits. If it's the case, the HE AP could announce a BSS color change prematurely. This can give the hacker an easy way to force the HE AP to change its BSS color very frequently. | Remove the "Bsscolor collision no longer exists". The paragraph should read: "A non-AP HE STA that intends to autonomously report a BSS color collision to its associated HE AP, shall do so by scheduling for transmission a BSS color collision Event Report frame every dot11BSSColorCollisionSTAPeriod the associated HE AP has set the BSS Color Disabled bit to 1 in HE Operation element that it transmits or if the non-AP STA has transmitted several such reports to its associated HE AP. | Rejected. Although in certain race conditions, to allow the AP to continue to change its BSS color even when the reporting STA no longer detects the BSS Color collision, would have minimal impact on the network performance. |
| 16570 | 28.3.14.3 | 545.44 | Without an actual measurement and feedback from the HE AP, the non-AP HE STA has no way of knowing that the HE TB PPDU it transmits arrives at the AP within +/-0.4 us of TXTIME + aSIFSTime + RTD from the transmission start time of the triggering PPDU | On line 46 of this paragraph, change "shall ensure" to "should ensure" | Transferred to PHY. |
| 16571 | 10.30.2 | 231.56 | The RD responder, which is a HE AP, may transmit a Basic Trigger frame to one or more non-AP HE STAs, not just any STAs | Modify the paragraph as follows: "If the RD initiator is an HE STA and the RD responder is an HE AP, the RD responder may transmit a Basic Trigger frame to trigger more than one non-AP HE-STA to do UL MU-MIMO transmission. The triggered non-AP HE-STA shall include the RD initiator in its transmitted HE TB PPDU." | Revised.  The proposed resolution is accepted with a minor editorial change (see 11-18-1932r5) |
| 16573 | 9.4.2.241.3 | 156.28 | To emphasize the existence of the 20 MHz only non-AP HE STA, bit B1 should be described as suggested. | In the Encoding column, replace the description of B1 with the following: " For 5 GHz band, B1 is set to 1 for 20 MHz only non-AP HE STA. B1 is set to 1 for HE AP | Rejected. Although the proposed text offers a slightly better descriptionof B1, it does not change the technical meaning of the current description. Moreover, leaving it the way it is would maintain the consistency with other descriptions in the same table. |
| 16574 | 9.4.2.237.3 | 156.37 | The definition of B4 should only apply to non-AP HE STAs | Change the definition for B4 to: "In 2.4 GHz band, a non-AP HE STA that sets the 20 MHz In 40 MHz HE PPDU subfield to 1 sets B4 to 1 to indicate support of 242-tone RU in a 40 MHz HE MU PPDU. Otherwise, B4 is set to 0" | Rejected. Although the proposed text offers a slightly better description of B1, it does not change the technical meaning of the current description. Moreover, leaving it the way it is would maintain the consistency with other descriptions in the same table. |
| 16575 | 9.4.2.241.3 | 156.43 | B5 definition should only apply to non-AP HE STAs. | In the definition of B5, change all non-AP STAs to non-AP HE STAs. | Accepted. |
| 16579 | 10.22.2.9 | 225.48 | Non-AP HE STAs are required to maintain 2 NAVs. | This paragraph does not apply to HE STA. There is no requirement that a HE STA that maintains one NAV would keep track of what caused the last update of the NAV. | Revised –  Only HE STAs that are associated to an HE AP are required to maintain two NAVs. An HE AP may support one or two NAvs. Proposed resolution clarified this aspect.  Tgax editor to make the changes shown in this document under all headings containing 16579 |
| 16580 | 27.2.2 | 253.64 | There is no known benefits for a HE STA to determine a PPDU is an intra-BSS or inter-BSS PPDUs when it is associated with a non HE-AP. | Remove the paragraph. | Accepted |

**CID 16571**

**10.30.2 Reverse direction (RD) exchange sequence**

*TGax Editor: Update D3.2, P240L43-46 with the paragraph below*

If the RD initiator is an HE STA and the RD responder is an HE AP, the RD responder may transmit a Basic Trigger frame to trigger more than one non-AP HESTA~~s~~ to do UL MU-MIMO transmission. The triggered STAs shall include the RD initiator.

**CID 16579**

**27.2.5 Truncation of TXOP(#16438)**

*TGax Editor: Update the paragraph below*

An HE non-AP STA that is not associated with an HE AP shall interpret the reception of a CF-End frame as a NAV reset, i.e., it reset its maintained NAV to 0 at the end of the PPDU containing this frame.

An HE ~~STA~~ AP that maintains one NAV (see 10.3.2.1 (CS mechanism)) and receives a CF-End frame should reset the NAV unless either of following conditions are met:

* The received CF-End frame is an inter-BSS frame and the most recently updated NAV was due to an intra-BSS frame (see 27.2.2 (Intra-BSS and inter-BSS PPDU classification(#17132))).
* The received CF-End frame is an intra-BSS frame and the most recently updated NAV was due to an inter-BSS frame (see 27.2.2 (Intra-BSS and inter-BSS PPDU classification(#17132))).

An HE STA that maintains two NAVs (see 27.2.4 (Updating two NAVs)) and receives a CF-End frame should reset:

* The basic NAV if the received CF-End frame is an inter-BSS frame
* The intra-BSS NAV if the received CF-End frame is an intra-BSS frame

AnHE STA that maintains two NAVs may reset both NAVs if the received CF-End frame is an intra-BSS frame and the basic NAV was updated due to a frame that cannot be identified as either inter-BSS frame or intra-BSS frame. An HE STA that receives a CF-End frame and resets all their maintained NAV(s) can start contending for the medium without further delay.

**CID 16580**

**27.2.2 Intra-BSS and inter-BSS PPDU classification(#17132)**

A STA shall classify a received PPDU as an inter-BSS PPDU if at least one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR is not 0 and is not the BSS color of the BSS of which the STA is a member.
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