IEEE P802.11
Wireless LANs

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| Proposed resolution for CIDs for 27-2-2 |
| Date: 2018-05-10 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D2.3 subclause 27.2.2 with the following CIDs :

* 11488, 11737, 11792, 14095, 12133, 12264, 12180, 12456, , 12262, 12459, 11735, 12132

Revisions:

* Rev 0: Initial version of the document.

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 TGax Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **commenter** | **Section** | **Pg / Ln** | **Cohmment** | **Proposed Change** | **Resolution** |
| 11488 | Chao chun Wang | 27.2.2 | 222.51 | "If the received frame does." . Is this paragraph really necessary? Does it say actually anything? | Delete the paragraph | Revised – Agree in general with the comment. We put the description as a note since this is already described in the following sentence.*Otherwise, the PPDU cannot be determined as an intra-BSS or inter-BSS PPDU.*TGax editor please make the changes as shown in 11-18/0964r0 under all headings that include CID 11488. |
| 11737 | Geonjung Ko | 27.2.2 | 222.17 | For the HE MU PPDU intended for an AP, the STA-ID field includes the transmitter STA's AID. Thus, when an AP receives an UL HE MU PPDU and there is no STA, of which the AID is equal to the value of the STA-ID field, in the BSS the AP is operating, the PPDU must be from an inter-BSS. Then the AP can determine whether the PPDU is an inter-BSS frame correctly in the HE-SIG-B even in the BSS color collision case (earlier than checking the MAC header). | Add the inter-BSS frame condition"The PPDU is an HE MU PPDU with the RXVECTOR parameter UL\_FLAG equal to 1, the STA is an AP, and there is no STA, of which the 11 LSBs of the AID is equal to the RXVECTOR parameter STA\_ID\_LIST, in the BSS that the STA operates." | RejectedIn most cases, BSS color in HE-SIG-A can determine the intra-BSS or inter-BSS frame. If the BSS color collision happen, it is expensive to look up all allocated STA-IDs to solve the issue in this case.We think AP can just decode the MAC frame to resolve the issue, which is already supported by the current spec. |
| 11792 | Graham Smith | 27.2.2 | 221.54 | "A STA that obtains at least the RXVECTOR for a PPDU..." Why "at least"? Is this needed why? Delete | Delete "at least" from cited text | Revised –Agree in principle with the commenter. We have revised the sentence to avoid ambiguity.TGax editor please make the changes as shown in 11-18/0964r0 under all headings that include CID 11792. |
| 14095 | Yuichi Morioka | 27.2.2 | 221.52 | Shouldn't the PPDU be classified as inter-BSS "PPDU" instead of inter-BSS "frame"? | If the Inter/Intra is an attribute of the PPDU, then, change all occurrence of "inter/intra-BSS frame" to "inter/intra-BSS PPDU". | Revised –Agree in principle with the commenter. We have revised the sentence to avoid ambiguity.TGax editor please make the changes as shown in 11-18/0964r0 under all headings that include CID 11792. |
| 12133 | Kaiying Lv | 27.2.2 | 222.06 | When the PPDU is a VHT MU PPDU, there is no UL\_FLAG in RXVECTOR. Please clarify it | as comment | Rejected - We clarify that the UL\_FLAG is only for HE MU PPDU. Hence, no change is required for the sentence. |
| 12264 | Kaiying Lv | 27.2.2 | 222.06 | When the PPDU is a VHT MU PPDU, there is no UL\_FLAG in RXVECTOR. Please clarify it | as comment | Rejected - We clarify that the UL\_FLAG is only for HE MU PPDU. Hence, no change is required for the sentence. |
| 12180 | Kaiying Lv | 27.2.2 | 222.51 | When an HE STA is not associated with any AP, how to classify a PPDU as an inter-BSS frame or an intra-BSS frame. | as comment | Rejected – When an HE STA is not associated with any AP, no conditions for intra-BSS or inter-BSS are satisfied. Hence, all the frame cannot be classified as intra-BSS or inter-BSS. |
| 12456 | Liwen Chu | 27.2.2 | 222.55 | The sentence is not well written. MPDUs in an A-MPDU all belong to either intra-BSS or inter-BSS. | Rewrite the sentence. | Revised – Agree in principle with the commenter. The frame has been revised with PPDU. Hence, the sentence is not needed.TGax editor please make the changes as shown in 11-18/0964r0 under all headings that include CID 12456. |
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| 12459 | Liwen Chu | 27.2.2 | 220.21 | The PPDU with RXVECTOR parameter BSS\_COLOR being 0 should not be identify as intra-BSS PPDU. | Change the text per the comment. | Rejected – The classification is there to have conservative behavior. The STA can still decode the MAC header to have the correct classification.  |
| 11735 | Geonjung Ko | 27.2.2 | 222.22 | While the subclause 27.2.2 in the current spec instructs the PPDU with the BSS\_COLOR of 0 to be classified as an intra-BSS frame, the TXVECTOR parameter BSS\_COLOR setting to 0 is used for an inter-BSS frame.According to the subclause 27.11.4 (BSS\_COLOR), the TXVECTOR parameter BSS\_COLOR is set to 0 when one or more of the intended recipient STAs is not a member of the transmitter's BSS. In that case, those recipient STAs are in the inter-BSS and the PPDU with the BSS Color field set to 0 is an inter-BSS frame.Also, in the previous drafts (until D1.4), if the RXVECTOR parameter BSS\_COLOR is equal to 0, it is determined that the received frame is neither an intra-BSS frame nor an inter-BSS frame. | Change the sentence as below."The RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is the BSS color of the BSS of which the STA is a member." | Rejected – The classification is there to have conservative behavior. The STA can still decode the MAC header to have the correct classification. |
| 12262 | Kaiying Lv | 27.2.2 | 221.60 | There is another case: when two HE STAs are associated with a non-HE AP, there is a TDLS link between the two HE STAs. If the color is not 0 using by the two HE STAs, the HE STAs cannot clarify the PPDUs as an inter-BSS PPDU when the PPDU is an HE PPDU with the RXVECTOR parameter BSS\_COLOR not equal to 0 and the STA is an HE STA associated with a non-HE AP. Please clarify it. | as comment | Rejected – The classification of BSS color 0 to be Intra-BSS is there to have conservative behavior. The STA can still decode the MAC header to have the correct classification. |
| 12132 | Kaiying Lv | 27.2.2 | 221.60 | There is another case: when two HE STAs are associated with a non-HE AP, there is a TDLS link between the two HE STAs. If the color is not 0 using by the two HE STAs, the HE STAs cannot clarify the PPDUs as an inter-BSS PPDU when the PPDU is an HE PPDU with the RXVECTOR parameter BSS\_COLOR not equal to 0 and the STA is an HE STA associated with a non-HE AP. Please clarify it. | as comment | Rejected – The classification of BSS color 0 to be Intra-BSS is there to have conservative behavior. The STA can still decode the MAC header to have the correct classification. |

***TGax editor: Modify 27.2.2 Intra-BSS and Inter-BSS frame determination as the following: (Track change on)***

* Intra-BSS and inter-BSS frame determination

A STA shall classify a received PPDU as an inter-BSS PPDU(#11792) 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.
* The PPDU is an HE PPDU with the RXVECTOR parameter BSS\_COLOR not equal to 0 and the STA is an HE STA associated with a non-HE AP.
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID not equal to the BSSID[39:47] of the BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs and the RXVECTOR parameter GROUP\_ID is 0.(#11742)
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] not equal to the partial BSS color announced by the BSS of which the STA whose dot11PartialBSSColorImplemented is equal to true is a member and RXVECTOR parameter GROUP\_ID equal to 63 when the Partial BSS Color field in the most recent HE Operation element is 1.
* The PPDU is either a VHT MU PPDU or an HE MU PPDU with the RXVECTOR parameter UPLINK\_FLAG(#11485) equal to 0 and the STA is an AP.
* The PPDU carries a frame that has a BSSID field, the value of which is not the BSSID of the BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs.(#11742)
* The PPDU carries a frame that does not have a BSSID field but has both an RA field and TA field, neither value of which is equal to the BSSID of the BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs. The Individual/Group bit in the TA field value is forced to 0 prior to comparison.(#11742)

Otherwise, a STA shall classify a received PPDU as an intra-BSS PPDU(#11792) if at least one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is 0 or the BSS color of the BSS of which the STA is a member.
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID equal to the BSSID[39:47] of the BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs and the RXVECTOR parameter GROUP\_ID equal to 0.(#11742)
* The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] equal to the partial BSS color of the BSS of which the STA whose dot11PartialBSSColorImplemented is equal to true is a member, the RXVECTOR parameter GROUP\_ID is equal to 63 and the Partial BSS Color field in the most recent HE Operation element is 1.
* The PPDU carries a frame that has an RA, TA or BSSID field value that is equal to the BSSID of the BSS or the BSSID of any BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs. The Individual/Group bit in the TA field value is forced to the value 0 prior to the comparison.(#11742)
* The PPDU carries a Control frame that does not have a TA field and that has an RA field value that matches the saved TXOP holder address of the BSS or any BSS with which the STA is associated or any of the other BSSs in the same multiple BSSID set or co-located BSSID set to which its BSS belongs.(#11742)

NOTE—See 10.20 for the definition of PARTIAL\_AID[5:8] and BSSID[39:47].

Otherwise, the PPDU cannot be determined as an intra-BSS or inter-BSS PPDU.(#11792)

NOTE – The PPDU cannot be determined as an intra-BSS or inter-BSS PPDU because the PPDU does not satisfy any of the intra-BSS and inter-BSS conditions.(#11488)

If the received frame satisfies both intra-BSS and inter-BSS conditions, the decision made by using the MAC address takes precedence over the decision made by using the RXVECTOR parameter BSS\_COLOR.

(#11488)(#12456)

***TGax editor: Modify 27.11.4 BSS\_COLOR as the following: (Track change on)***

* BSS\_COLOR

An HE STA shall set the TXVECTOR parameter BSS\_COLOR for an HE PPDU that is addressed to a peer STA to the active BSS color value, if the HE STA has established any of the following:

* An association with the peer STA
* A TDLS link with the peer STA
* An IBSS membership with the peer STA