IEEE P802.11
Wireless LANs

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| Proposed resolution for CIDs for 27-2-2 |
| Date: 2018-09-13 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D3.0 subclause 27.2.2 with the following CIDs :

15669, 15728,15907,~~15908~~,16182,16456,16457,~~16932,~~16933,16934,17061,17062

Revisions:

Rev 0: Initial version of the document.

Rev1: update based on online discussion.

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** | **Comment** | **Proposed Change** | **Resolution** |
| 15669 | Huizhao Wang | 27.2.2 | 254.57 | Inter-BSS and Intra-BSS conditions should be binary choices without ambiguous terms | Either remove following paragraph:"If the received frame satisfies both intra-BSS and inter-BSS conditions, the decision made by using theMAC address takes precedence over the decision made by using the RXVECTOR parameter BSS\_COLOR."Or: add the text to spell out the ambiguous conditions and rules to handle them. | RevisedAgree with the comment. TGax editor please make the changes as shown in 11-18/1655r2 |
| 15728 | James Yee | 27.2.2 | 254.58 | The "decision" is too vague. Should be modified to the "classification decision". | As suggested. | Accepted TGax editor please make the changes as shown in 11-18/1655r2 |
| 15907 | Liwen Chu | 27.2.2 | 254.7 | Clarify which part of BSS color is used for the comparison. | As in the comment | RevisedAgree with the comment. TGax editor please make the changes as shown in 11-18/1655r2 |
| ~~15908~~ | ~~Liwen Chu~~ | ~~27.2.2~~ | ~~221.54~~ | ~~BSS color 0 should not be treated as intra-BSS PPDU. Otherwise the Duration will be ignord by the following HE TB transmission.~~ | ~~As in the comment~~ | ~~Revised~~~~Agree with the comment.~~ ~~TGax editor please make the changes as shown in 11-18/1655r2~~ |
| 16182 | Mark Rison | 27.2.2 | 254.6 | "PARTIAL\_AID[5:8] not equal to the partial BSS color announced by the BSS" -- partial BSS colour is not announced, the full colour is, with an extra info that partial BSS colour bits are in use for AIDs. And it's the HE AP that announces, not the BSS | Reword as "PARTIAL\_AID[5:8] is not compatible with the BSS color announced by the HE AP". At 254.35 reword as "PARTIAL\_AID[5:8] is compatible with the BSS color announced by the HE AP" | RevisedAgree with the comment. TGax editor please make the changes as shown in 11-18/1655r2 |
| 16456 | Michael Montenurro | 27.2.2 | 254.50 | Is the cross reference clause mentioned in the comment correct? | It looks to me as though theclause should be10.21, not 10.20 assuming S1G. Otherwise could it be 10.19? However this looks to be based on S1G | RejectedThe reference is correct in IEEE Std 802.11™-2016. |
| 16457 | Michael Montenurro | 27.2.2 | 254.50 | the Note references a clause that refers to an S1G STA. | Clause 10.20 looks to be an S1G specific clause. It looks as though the clause needs to be modified to refer either generically to STAs or to both S1G and HE STAs. Any clauses in 10 should be written in a way tha clearly indicates that they are applicable to HE STAs. | RejectedThe reference is correct in IEEE Std 802.11™-2016. |
| ~~16932~~ | ~~Xiaofei Wang~~ | ~~27.2.2~~ | ~~253.64~~ | ~~Is the phrase " with the RXVECTOR parameter BSS\_COLOR not equal to 0" necessary? I would imagine that being a HE STA associated with a non-HE AP and receiving a HE PPDU is sufficient to classify the packet as inter-BSS PPDU.~~ | ~~Remove the phrase " with the RXVECTOR parameter BSS\_COLOR not equal to 0"~~ | ~~Rejected~~~~An HE STA associated with a non-HE AP receiving a public action frame in an HE PPDU should not classify the PPDU as inter-BSS PPDU.~~ |
| 16933 | Xiaofei Wang | 27.2.2 | 254.54 | The note seems to be unnecessary since the the entire section is on criterias how a packet is categories as inter-BSS or intra-BSS PPDUs | remove the note on line 54 | AcceptedIt is already removed in D3.1 |
| 16934 | Xiaofei Wang | 27.2.2 | 222.55 | A PPDU cannot be determined as an intra-BSS PPDU and as inter-BSS PPDU at the same time, since there is "Otherwise" present in the intra-BSS conditions at P254L24. The word "otherwise" in the intra-BSS PPDU condition make it impossible for a PPDU to be categoried as both Inter-BSS and Intra-BSS PPDU at the same time. | rewrite the condition for intra-BSS PPDU, e.g., by removing the word "Otherwise" from P254L24 | Accepted.Agree with the comment. Modify the expression by removing the “otherwise”. TGax editor please make the changes as shown in 11-18/1655r2 |
| 17061 | Yongho Seok | 27.2.2 | 254.58 | "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."The resolution of CID6176 and CID9727 discussed in 11-17/389r10 was approved by the group in 2017 September meeting.But, the proposed text change was not implemented in D2.0 because it was conflicted with resolutions of other CIDs.BTW, remove the cited text. Please refer the resolution of CID6176 and CID9727.It never satisfies the inter-BSS conditions if the received frame is a real intra-BSS frameEg. When an AP receives an HE DL MU PPDU with the same color, the received HE DL MU PPDU satisfies both intra-BSS and inter-BSS conditions.In that case, the AP definitely knows that the received HE DL MU PPDU is an inter-BSS frame. So, it is not necessary to decode the PSDU to check the MAC address. | As in discussion and proposed change of 11-17/389r10, remove the following text."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." | Rejected.When a non-AP STA receives an HE DL MU PPDU from OBSS AP with the same color, the received HE DL MU PPDU satisfies both intra-BSS and inter-BSS conditions.In that case, the decision made by using the MAC address takes precedence over the decision made by using the RXVECTOR parameter BSS\_COLOR.”  |
| 17062 | Yongho Seok | 27.2.2 | 254.58 | "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."The public action frame transmitted from a first AP to a second AP meets the following conditions for both an intra-BSS frame and an inter-BSS frame.- The PPDU carries a frame that has a BSSID field, the value of which is not the BSSID of the BSS or any BSS that is a member of the same multiple BSSID set as the BSS of which the STA is a member. (inter-BSS frame condition)- 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 that is a member of the same multiple BSSID set as the BSS of which the STA is a member. The Individual/Group bit in the TA field value is forced to the value 0 prior to the comparison. (intra-BSS frame condition)Because the BSSID field of the public action frame is set to either the BSS's BSSID or the wildcard BSSID value (refer 11.20) and the TA of the public action frame is set to the BSSID.If the received frame satisfies both intra-BSS and inter-BSS conditions by using the MAC address, the received frame have to be classified into an intra-BSS frame. | Insert the following sentence:"If the received frame satisfies both intra-BSS and inter-BSS conditions by using the MAC address, the received frame have to be classified into an intra-BSS frame." | AcceptedTGax editor please make the changes as shown in 11-18/1655r2 |

* **Intra-BSS and inter-BSS frame determination**

TGax Editor: Please replace the paragraphs (pg 225, line 55 in D3.1) in this section as follows:

**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.

— 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 param-eter GROUP\_ID is 0.

— The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] not equal to the par-tial BSS color which is the 4 LSBs of the BSS color (#15907, #16182) 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 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 or the wildcard BSSID(#17062).

— 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.

A(#16934) STA shall classify the received PPDU as an intra-BSS PPDU if at least one of the following conditions is true:

— 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.

— 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 param-eter GROUP\_ID equal to 0.

— The PPDU is a VHT PPDU with RXVECTOR parameter PARTIAL\_AID[5:8] equal to the partial BSS color which is the 4 LSBs of the BSS color (#15907, #16182) announced by 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.

— 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.

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.

(#15727)If the received frame satisfies intra-BSS condition using the RXVECTOR parameter BSS\_COLOR and also satisfies inter-BSS condition using MAC address information (#15669), the classification (#15728) decision made by using the MAC address takes precedence over the decision made by using the RXVECTOR parameter BSS\_COLOR.