IEEE P802.11
Wireless LANs

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| Proposed resolution for CIDs for 27-2-1 |
| Date: 2017-03-15 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D1.0 with the following CIDs (30):

* 3056, 3189, 3190, 5167, 5168, 5394, 5454, 5456, 5686, 5779, 5799, 6058, 6051, 6152, 6176, 6574,6575,6576,6579,6580,6581,6582,6583,7022,7071,7232,7659,8358,8693,9380,9585,9727,~~9739~~,9747,9872,10007,10171,10241,10242,10243,10244,10319

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: change resolution for CID 3056, 5168, 6051,9727, 9747; remove CID 9739

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** | **Section** | **Pg / Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 3056 | 27.2.1 | 149.48 | Need to capture the case when BSS\_COLOR is 0 | Frame is Inter BSS when BSS\_COLOR is 0, Inter-BSS NAV is set | RejectedAn HE PPDU having the BSS\_COLOR equal to 0 is not an inter-BSS PPDU. Based on the current rule, the frame cannot be determined as intra-BSS or inter-BSS frame. Therefore the basic NAV will be set. It is correct behavior. So, no change is needed. |
| 6051 | 27.2.1 | 149.51 | The second condition of Inter-BSS frame detection (i.e., BSSID field based detection) could be adopted for RXVECTOR parameter BSS\_COLOR set to 0 as well as absence of BSS\_COLOR. | Change as following:"When the RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is not present or 0, | RejectedSame as CID 3056. |
| 3189 | 27.2.1 | 149.24 | Clarify the case where the STA has received a Color Change Ano. and color switch countdown is not over yet: "The RXVECTOR parameter BSS\_COLOR in the received PPDU carrying the frame is the same as the BSS color announced by the AP to which the STA is associated" | As in the comment | RejectedThe rules for BSS color classification should not be changed based on the COLOR disable bit. The problem of BSS color collision can be resolved by turning off intra-BSS PPDU power save.  |
| 3190 | 27.2.1 | 149.38 | Clarify the case where the STA has received a Color Change Ano. and color switch countdown is not over yet: "The value of RXVECTOR parameter PARTIAL\_AID [5:8] in the received VHT PPDU with the RXVECTOR parameter GROUP\_ID equal to 63 is the same as the partial BSS color announced by the AP to which the STA is associated when the Partial BSS Color field in the most recently received HE Operation element is 1." | As in the comment | RejectedThe rules for BSS color classification should not be changed based on the COLOR disable bit. The problem of BSS color collision can be resolved by turning off intra-BSS PPDU power save.  |
| 5167 | 27.2.1 | 149.19 | How does "received frame" equate to the HE receive procedure? To elaborate, in Figure 28-51 PHY receive state machine, BSS color filtering occurs after CRC OK check of HE-SIG-A. However, that doesn't mean the frame can be received. The most obvious example is mismatch in PHY modes (e.g. 2-SS PPDU trying to be received by 1-SS receiver)With respect to "or MAC | With respect to RXVECTOR parameters located in the HE-SIG-A, "received frame" should probably be changed to "valid CRC of HE-SIG-A or valid CRC of VHT-SIG-A". | Accepted.TGax editor please make the changes as shown in 11-17/0389r1 |
| 5168 | 27.2.1 | 149.25 | If the BSS\_COLOR is zero in the PPDU, and the BSS color of the AP is zero, is the frame still classified as intra-BSS? | As in the comment | RejectedIf the BSS\_COLOR is zero in the PPDU, and the BSS color of the AP is zero,…”This condition is not happened. The BSS color of the AP is in the range 1 to 63, not 0. |
| 5394 | 27.2.1. | 150.15 | Partial BSS Color information can be included in the Partial AID field. Therefore, the decision made by using the MAC address should take precedence over the decision made by using the RXVECTOR parameter GROUP\_ID and PARTIAL\_AID. | As per comment | RevisedAgree with the comment. Update the text by adding the priority of the RXVECTOR parameter GROUP\_ID and PARTIAL\_AID.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6058 | 27.2.1 | 150.16 | Group ID and Partial AID as well as BSS Color can be RXVECTOR paramters in VHT PPDUs. | Change the text as following:RXVECTOR parameters (e.g., BSS\_COLOR in HE PPDUs or GROUP\_ID and PARTIAL\_AID in VHT PPDUs). | RevisedAgree with the comment. Update the text by adding the priority of the RXVECTOR parameter GROUP\_ID and PARTIAL\_AID.TGax editor please make the changes as shown in 11-17/0389r1 |
| 7659 | 27.2.1 | 149.16 | The priority of partial AID is missing. Add it. | As in comment | RevisedAgree with the comment. Update the text by adding the priority of the RXVECTOR parameter GROUP\_ID and PARTIAL\_AID.TGax editor please make the changes as shown in 11-17/0389r1 |
| 10243 | 27.2.1 | 150.15 | A precedence rule of PARTIAL\_AID should be defined. | Add "or PARTIAL\_AID" at the end of the sentence. | RevisedAgree with the comment. Update the text by adding the priority of the RXVECTOR parameter GROUP\_ID and PARTIAL\_AID.TGax editor please make the changes as shown in 11-17/0389r1 |
| 5454 | 27.2.1 | 149.27 | "The RA field, TA field or BSSID field of the received frame with the Individual/Group bit forced to the value 0 is the same as the BSSID of AP to which the STA is associated" The forcing the Individual/Group bit to 0 only applied to RA and TA fields, not to the BSSID. Needs rewording. | To read "The RA field or TA field of the received frame with the Individual/Group bit forced to the value 0, or the BSSID field, is the same as the BSSID of AP to which the STA is associated" | AcceptedTGax editor please make the changes as shown in 11-17/0389r1 |
| 5456 | 27.2.1 | 149.46 | "A frame received by the STA is an inter-BSS frame if one of the following conditions is true:" Having ploughed through the intra-BSS conditions, do we really need to have all these? Why not simply say if none of the intra-BSS conditions is met, then the frame is considered and inter-BSS frame? | Replace with "Otherwise a frame received by the STA is an inter-BSS frame." AND delete P150L15-16. | Rejected.The purpose of distinguishing the inter-BSS frame is for spatial reuse. |
| 7232 | 27.2.1 | 149.46 | Looking through subclause 27.2.2 (updating two NAVs), there is no need to distinguish inter-BSS frame, as both inter-BSS frame and frame that cannot be identified as intra-BSS or inter-BSS are reflected to basic NAV. | Remove inter-BSS frame recognition, and clean up the description. | Rejected.The purpose of distinguishing inter-BSS frame is for spatial reuse. |
| 5686 | 27.2.1 | 150.31 | What if STA sends an HE MU PPDU? It's not forbidden in the spec, and therefore this condition is not accurate since this HE MU PPDU may come from its own BSS. | Clarify | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6152 | 27.2.1 | 150.13 | an HE MU PPDU could also be Uplink transmission from a STA of the same BSS to the associated AP | change to downlink HE MU PPDU | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6582 | 27.2.1 | 150.13 | Why does an HE AP interpret each HE MU PPDU as inter-BSS? | Clarify | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 7022 | 27.2.1 | 150.13 | HE MU PPDU can be transmitted by a non-AP STA. An HE AP shall not enter intra-PPDU PS when a non-AP STA transmitts UL HE MU PPDU. Therefore, an HE AP shall only enter intra-PPDU PS when it receives DL HE MU PPDU. | Change from "HE MU PPDU" to "DL HE MU PPDU" | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 8693 | 27.2.1 | 150.13 | One of the conditions for inter-BSS frame is: "An HE AP receives either a VHT MU PPDU or an HE MU PPDU". Does this imply that STAs can never use the MU format - even if they only transmit to one user. | Use of MU format by STAs should be clarified. Page 212, line 9 states that non-AP STAs may support "Transmission of an HE MU PPDU over partial PPDU bandwidth and full PPDU bandwidth". In that case, reception of an HE MU by the HE AP could be intra-BSS. | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 9380 | 27.2.1 | 150.13 | A non-AP HE STA can also send an HE MU PPDU. When an HE AP receives an HE MU PPDU, the AP can not determine whether the PPDU is an inter-BSS or an intra-BSS PPDU. | Please change the text to "An HE AP receives either a VHT MU PPDU or a DL HE MU PPDU | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 9872 | 27.2.1 | 150.13 | A non-AP HE STA can transmit HE MU PPDU. Therefore, receiving an HE MU PPDU by an HE AP does not guarantee that the received frame is an inter-BSS frame. Moreover, if an HE AP receives an HE MU PPDU, it can check if the received frame is an inter/intra-BSS frame by RXVECTOR BSS\_COLOR, which is already mentioned in the first bullet. Therefore, adding HE MU PPDU does not need to be added here. | Delete "or an HE MU PPDU" in the last bullet. | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 100171 | 27.2.1 | 150.13 | "An HE AP receives either a VHT MU PPDU or an HE MU PPDU" is one of the conditions to determine an inter-BSS frame in Draft 1.0. But HE MU PPDU is allowed to be used in UL transmission (DL/UL indication in HE MU PPDU). When HE MU PPDU is transmitted by intra-BSS STA for UL transmission, it can not be determined as an inter-BSS frame. | Remove the condition of HE MU PPDU, or disallow HE MU PPDU for UL transmission. | RevisedAgree with the comment. Add the condition that it is a DL HE MU PPDU.TGax editor please make the changes as shown in 11-17/0389r1 |
| 5799 | 27.2.1 | 149.19 | GROUP\_ID and PARTIAL\_AID cannot be used by non-AP STA to determine inter-BSS or intra-BSS of a frame, if it is not intended receiver because it does have the knowledge of AIDs assigments to other STAs in the same BSS | Remove "or GROUP\_ID and PARTIAL\_AID in VHT" | RejectedThe GROUP\_ID and PARTIAL\_AID can be used by matching with the BSSID[39:47] of the AP to which it is associated or with the partial BSS color announced by the AP to which it is associated.  |
| 6176 | 27.2.1 | 150.15 | It seems that to firmly determine whether a frame is intra-BSS or inter-BSS, in certain cases, the whole PPDU needs to be decoded rather than only looking at the BSS Color (e.g., dense environments with BSS color collision). However, certain spatial reuse mechanism needs to issue CCA reset primitive before the end of PPDU (see 27.9.2.1). The requirement seems contradicting each other, which leads to the infeasibility of spatial reuse. | Please clarify | Revised.Agree with the comment. 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.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6575 | 27.2.1 | 149.18 | Various methods are given for "determining" whether a received frame is an inter-BSS or intra-BSS frame. With the (possible) exception of MAC address, they all have some probability of false classification. As such, it seems that what is being described is an estimate of the inter-BSS / intra-BSS classification, not a definitive determination. If that's the case, it is misleading to write that the HE STA "determines" anything. | Reword appropriately. For example, if it's intended that the HE STA must make some attempt at a classification, but that it doesn’t necessarily have to use the MAC address, then change to something like “An HE STA shall attempt to classify received frames as inter-BSS or intra-BSS using one or more of the following criteria”, etc. | RevisedAgree with the comment. See resolution for CID 6176.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6576 | 27.2.1 | 149.18 | The text discusses a determination of whether a received frame is inter-BSS or intra-BSS, but at the end of the section it's mentioned (or acknowledged) that frames may satisfy one or more conditions for both. It's very murky what happens then. The draft goes on to provide one way of making a decision (check the MAC address) but doesn't say whether it's required or not. So we don't know (a) if the HE STA is required to do any of this; (b) if it starts the process, is it required to run all the methods or just some?; (c) if it's not required to run all the methods, can it give up its attempt to classify if it gets conflicting answers from the ones it tries? | Reword appropriately. | RevisedAgree with the comment. See resolution for CID 6176.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6583 | 27.2.1 | 150.17 | "the decision made by using the MAC address takes precedence". The entire section is written in a way that makes requirements frustratingly elusive. The present text is one example among many. Since the text says "the decision", are we to conclude that it is mandatory for the STA to process the MAC address for all received frames? if a STA decided--for power save purposes of for any other reason--to make the conservative decision that the received PPDU should count as both intra-BSS and inter-BSS, would that impact any other device in the network negatively? If not, why insist on HE STAs processing the MAC address? Or more basically, is this in fact what the draft requires? | Clarify this and the entire section. In doing so, please make appropriate and precise use of the key words "shall", "should", and "may", as appropriate. | RevisedAgree with the comment. See resolution for CID 6176.TGax editor please make the changes as shown in 11-17/0389r1 |
| 9727 | 27.2.1 | 150.15 | "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."There exist several further cases that satisfy both intra-BSS and inter-BSS conditions.For example, a HE AP receives an HE MU PPDU having the same BSS\_COLOR. Above cited spec text is covering only single specific case.For generalizing it, please change it as the following."If the received frame satisfies both intra-BSS and inter-BSS conditions, the decision made by using the RXVECTOR parameter BSS\_COLOR is overridden by the decision made by using the other parameter." | As per comment. | RevisedAgree with the comment. See resolution for CID 6176.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6574 | 27.2.1 | 149.18 | From the text "An HE STA determines whether a received frame is an inter-BSS or an intra-BSS frame by using ...", it is not clear whether a normative requirement is being described. That is, the text tells us how an HE STA makes this determination, but not whether it is required to make the determination in the first place | Clarify whether this is a requirement or not. If so, say so explicitly. If not, reword to make it clear that there is no requirement. | RevisedAgree with the comment. Delete the first sentence because all the normative behavior is described below. Also make the text of this section normative.TGax editor please make the changes as shown in 11-17/0389r1 |
| 6579 | 27.2.1 | 149.39 | Unnecessary variant used for defined term: "BSS color". The term is "BSS Color". | Change to "BSS Color". | AcceptedTGax editor please make the changes as shown in 11-17/0389r1 |
| 6580 | 27.2.1 | 149.50 | Unnecessary variant used for defined term: "BSS color". The term is "BSS Color". | Change to "BSS Color".  | AcceptedTGax editor please make the changes as shown in 11-17/0389r1 |
| 6581 | 27.2.1 | 150.09 | Unnecessary variant used for defined term: "BSS color". The term is "BSS Color". | Change to "BSS Color". | AcceptedTGax editor please make the changes as shown in 11-17/0389r1 |
| 7071 | 27.2.1 | 149.25 | "... the same as the BSS color announced by the AP to which the STA is associated ..."It seems that this description is only for non-AP STAs. However, this condition (BSS color identification) should be used for APs as well.(Also in other items of this subclause.) | Clarify the conditions for an AP. | Revised.Agree with the comment. Update text by changing AP to BSS.TGax editor please make the changes as shown in 11-17/0389r1  |
| 8358 | 27.2.1 | 149.43 | The STA that receives a control frame without the TA for the first time does not know if the RA matches the saved TXOP holder address for the BSS to which it is associated. In fact, most STAs do not have the knowledge of whether the RA in the received frame is in the same BSS or not. | Modify the paragraph on lines 43-44 to the following: "The frame is a control frame that does not have a TA field and the RA matches the BSSID for the BSS to which it is associated". | RejectedThis statement is for the case where the STA received a control frame with TA and RA first and then it received a control frame without the TA.For the case that the commenter mentioned here is already covered by the rule “The RA field, TA field or BSSID field of the received frame with the Individual/Group bit forced to the value 0 is the same as the BSSID the AP to which the STA is associated”  |
| 9585 | 27.2.1 | 149.47 | A CTS frame transmitted by an associated AP would be considered as an inter-BSS frame. | If an RTS sender STA is an HE STA, RA field of CTS frame shall be set to AP's MAC address. | Rejected.If the RA field of CTS frame sent by AP is set to AP’s MAC address instead of destination STA’s address, then it might cause ambiguity. For example, if two STAs send an RTS simultaneously, the CTS responded by AP will be considered as its response. Then the following data PPDU might collide. |
| 9739 | 27.2.1 | 149.48 | "The RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is not 0 and does not match the BSS color announced by the AP to which the STA is associated"When an HE STA that is associated to a legacy AP receives an HE PPDU with the RXVECTOR parameter BSS\_COLOR, the received HE PPDU is an inter-BSS frame.Add the following condition for an inter-BSS frame determination."The RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is present and the STA is associated to the legacy AP." | As per comment. | RejectedA HE STA associated with a legacy AP shall behave as a legacy STA. No need to do intra-BSS and inter-BSS frame determination. |
| 9747 | 27.2.1 | 149.55 | "If the BSSID field is not available, both the RA and TA fields exist, and none of the address fields of the received frame with Individual/Group bit forced to the value 0 match the BSSID of AP to which the STA is associated"When a STA knows the BSSID of an OBSS AP (e.g., through an active or passive scanning), it can identify a received frame as an inter-BSS frame through the BSSID of the OBSS AP.Insert the following additional conditions:"If the BSSID field is not available and the address field of the received frame with Individual/Group bit forced to the value 0 match the BSSID of an OBSS AP to which the STA is not associated""If the BSSID field is not available, both the RA and TA fields exist, and none of the address fields of the received frame with Individual/Group bit forced to the value 0 match the BSSID of AP to which the STA is associated"When a STA knows the BSSID of an OBSS AP (e.g., through a active or passive scanning), it can identify a received frame as an inter-BSS frame through the BSSID of the OBSS AP.Insert the following additional conditions:"If the BSSID field is not available and one of address fields of the received frame with Individual/Group bit forced to the value 0 match the BSSID of an OBSS AP that was previuously observed by the STA." | As per comment. | RevisedThe group has to answer that the conditions listed in 27.2.1 (Intra-BSS and inter-BSS frame detection) covers all cases or not?If the group agrees that other condition not listed in 27.2.1 (Intra-BSS and inter-BSS frame detection) exists for the Intra-BSS and inter-BSS frame detection, then the spec has to note that 27.2.1 (Intra-BSS and inter-BSS frame detection) does not list all conditions for the Intra-BSS and inter-BSS frame detection. TGax editor please make the changes as shown in 11-17/0389r1 |
| 10007 | 27.2.1 | 150.61 | Any response frame (such as ACK/BA/CTS) sent by associated AP in legacy PPDU doesn't meet this condition, therefore third party STAs which can't receive the UL PPDU frame will not be able to update the intra NAV. | Define a way to convey BSS Color information for legacy PPDUs. | RejectedThe STA received a PPDU which can not be determined as intra-BSS or inter-BSS frame will update its basic NAV so that it won’t contend the medium. |
| 10241 | 27.2.1 | 149.20 | It is described that inter-BSS or intra-BSS frame can be identified by its MAC address. From the aspect of early identification for SR, it is beneficial to clarify that the identification of inter-BSS frame is realized per MPDU in the A-MPDU. | Add the following condition for inter-BSS frame identification."The MAC address of a MPDU with valid FCS in the received A-MPDU is not the MAC address of members of the BSS with which the STA is associated." | RejectedIt is of implementation issue. |
| 10242 | 27.2.1 | 150.13 | It is obvious that if the received signal is not IEEE Std 802.11 transmission it is an inter-BSS frame. | Add the following condition for inter-BSS frame identification."An HE STA receives signal which is not NON\_HT, HT\_MF, HT\_GF, VHT or HE PPDU." | RejectedIf the received signal can not be identified as 802.11 PPDU, then the STA should use ED threshold to determine the medium condition instead of using OBSS-PD.  |
| 10244 | 27.2.1 | 150.19 | If the received frame does not satisfy any of the intra-BSS and inter-BSS conditions, the frame can be defined as inter-BSS frame to improve benefit of OBSS\_PD based SR. Even in case if the intra-BSS frame is identified as inter-BSS frame by erroneous detection, received power level of intra-BSS frame is usually high so that OBSS\_PD based SR mechanism does not allow to transmit overlapping the frame and prevent interfering. | Replace "then the frame cannotbe determined as intra-BSS or inter-BSS frame." with "then the frame can be determined as inter-BSS frame." | RejectedThe PPDU sent by hidden STA within the same BSS will be interfered |
| 10319 | 27.2.1 | 149.20 | MPDU delimeter can be extended to convey inter or intra BSS info. The extension allows HE AP being able to send A-MPDU in VHT format that has inter or intra BSS information before checking the MAC header | Per comment | RejectedIt can be solved by implementation. For example, and one QoS NULL frame at the beginning of the A-MPDU. |

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

TGax Editor: Please modify the paragraphs (pg 153, line 18 in D1.1) in this section as follows:

~~An HE STA determine whether a received frame is an inter-BSS or an intra-BSS frame by using the RXVECTOR parameters (e.g., BSS\_COLOR in HE PPDUs or GROUP\_ID and PARTIAL\_AID in VHT PPDUs) or MAC address.~~ [6574]

A frame ~~received~~ detected [5167]by the STA is an intra-BSS frame if one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR in the ~~received~~ detected[5167] PPDU with valid CRC of HE-SIG-A [5167]carrying the frame is the same as the BSS ~~c~~Color[6579] announced by the ~~AP~~ BSS[7071] to which the STA is associated
* The RA field, TA field ~~or BSSID field~~ of the received frame with the Individual/Group bit forced to the value 0, or BSSID field, [5454] is the same as the BSSID of ~~AP~~ the BSS[7071] to which the STA is associated
* The AP to which the STA is associated is a member of a Multiple BSSID Set with two or more members and the RA field, TA field of the received frame with the Individual/Group bit forced to the value 0 is same as the BSSID of any member of the Multiple BSSID Set
* The RXVECTOR parameter PARTIAL\_AID in the ~~received~~ detected[5167] VHT PPDU with valid CRC of VHT-SIG-A[5167] with the RXVECTOR parameter GROUP\_ID equal to 0 is the same as the BSSID[39:47] of the ~~AP~~ BSS [7071] to which the STA is associated
* The value of RXVECTOR parameter PARTIAL\_AID [5:8] in the ~~received~~ detected VHT PPDU with valid CRC of VHT-SIG-A[5167] with the RXVECTOR parameter GROUP\_ID equal to 63 is the same as the partial BSS ~~c~~Color[6579] announced by the ~~AP~~ BSS [7071] to which the STA is associated when the Partial BSS Color field in the most recent~~ly received~~ [7071]HE Operation element is 1.
* The frame is a control frame that does not have a TA field and the RA matches the saved TXOP holder address for the BSS to which it is associated.

A frame ~~received~~ detected [5167]by the STA is an inter-BSS frame if one of the following conditions is true:

* The RXVECTOR parameter BSS\_COLOR of the detected PPDU with valid CRC of HE-SIG-A[5167]carrying the frame is not 0 and does not match the BSS ~~c~~Color[6580] announced by the ~~AP~~ BSS[7071]to which the STA is associated
* When the RXVECTOR parameter BSS\_COLOR of the PPDU carrying the frame is not present:
* The BSSID field of the received frame with Individual/Group bit forced to the value 0, if available, does not match the BSSID of ~~AP~~ BSS[7071] to which the STA is associated
* If the BSSID field is not available, both the RA and TA fields exist, and none of the address fields of the received frame with Individual/Group bit forced to the value 0 match the BSSID of BSS[7071] to which the STA is associated
* If the BSSID field is not available and one of address fields of the received frame with Individual/Group bit forced to the value 0 match the BSSID of an OBSS AP that was previously observed by the STA[9747]
* The AP to which the STA is associated is a member of a Multiple BSSID Set with two or more members and the BSSID field of the received frame with Individual/Group bit forced to the value 0, if available, does not match the BSSID of any member of the Multiple BSSID Set
* If the AP to which the STA is associated is a member of a Multiple BSSID Set with two or more members, the BSSID field is not available, both the RA and TA fields exist, and none of the address fields of the received frame with the Individual/Group bit forced to the value 0 match the BSSID of any member of the Multiple BSSID Set
* The RXVECTOR parameter PARTIAL\_AID of the ~~received~~ detected VHT PPDU with valid CRC of VHT-SIG-A[5167]~~frame~~ with the RXVECTOR parameter GROUP\_ID equal to 0 is different from the BSSID[39:47] of the ~~AP~~ BSS[7071]to which the STA is associated
* The value of RXVECTOR parameter PARTIAL\_AID [5:8] in the ~~received~~ detected VHT PPDU with valid CRC of VHT-SIG-A [5167]the RXVECTOR parameter GROUP\_ID equal to 63 is different from the partial BSS ~~c~~Color[6581] announced by the ~~AP~~ BSS[7071] to which the STA is associated when the Partial BSS Color field in the most recent~~ly received~~[7071] HE Operation element is 1.
* An HE AP receives either a VHT MU PPDU or an HE MU PPDU with the RXVECTOR parameter UL\_FLAG set to 0[5686,6152,6582,7022,8693,9380].

If the ~~received~~ detected [5167]frame satisfies both intra-BSS and inter-BSS conditions, the detcted frame is an inter-BSS frame ~~the decision made by using the MAC address takes precedence over the decision made by using the RXVECTOR parameter BSS\_COLOR.~~ [6176,6574,6576,6583,9727]

If the ~~received~~ detected[5167] frame does not satisfy any of the intra-BSS and inter-BSS conditions, then the frame cannot be determined as intra-BSS or inter-BSS frame.