IEEE P802.11  
Wireless LANs

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| Resolution for CIDs related to Multiple BSSID | | | | |
| Date: November 10, 2019 | | | | |
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Abstract

This submission proposes resolutions for following CIDs received for TGax LB244

22103, 22106, 22006, 22217, 22115, ~~22122~~, 22281

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated based on offline feedback
* Rev 2:
  + updated the revision number in the instructions to the editor
  + Updated based on discussion when the doc was presented Nov F2F AM1 (11/12)
  + CID 22122 is deferred

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** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 22103 | Liwen Chu | 213.01 | 9.4.2.258 | Clarify that the count is the number of non-transmitted BSSIDs | Change the paragraph to "The BSSID Count field carries the total number of active nontransmitted BSSIDs defined by the multiple BSSID set" | **Rejected**  The existing text doesn’t require further clarification. The field indicates the total number of active BSSIDs in the set (which includes transmitted BSSID). This is consistent with the definition of Max BSSID Indicator field in Multiple BSSID element. |
| 22106 | Liwen Chu | 266.42 | 10.23.2.4 | This adds unnecessary restriction to the frame exchange with Multiple BSSIDs support. | Change to text to "During an EDCA TXOP, the Address 2 field excluding the Individual/Group bit of all Control frames carried in a PPDU that is not an HE MU PPDU sent by an HE STA that is a TXOP holder shall be set to the same address value unless when Multiple BSSID is supported, the TA may be the transmitted BSSID or non-transmitted BSSIDs announced by the transmitted BSSID in its Multiple BSSID element" | **Rejected**  Having the TA value consistent during the TXOP would help OBSS STAs (which may not support Control frames to Multi-BSS, and/or may not know about our BSS’s different BSSIDs) to track the TXOP holder. Further the rules need to be consistent across all Control frames (see 26.4.1 which suggests that the TA field of MBA is set to TxBSSID when the TA is obtained by TxBSSID). |
| 22006 | Albert Petrick | 285.25 | 11.1.3.8.1 | Add definition for EMA AP in clause 3.0. It's defined as 6 GHz AP the supports extended capabilities discovery, and enhanced multi-BSSID functions. It should be called an HE EMA AP. | As commented | **Rejected**  Definition of EMA AP existings in clause 3 (see P42L59). Further, an HE AP operating in 2.4 / 5 GHz can also operate as EMA AP as described in 11.1.3.8.1 |
| 22217 | Mark RISON | 285.26 | 11.1.3.8.1 | "When an AP that does not operate in the 6 GHz band, has dot11MultiBSSIDImplemented equal to true and advertises a partial list of nontransmitted BSSID profiles intends a non-AP STA to discover the complete list of nontransmitted BSSID profiles, where a com- plete list of nontransmitted BSSID profile comprises only BSSIDs that are discoverable, the AP shall oper- ate as an EMA AP." is changing existing behaviour (non-HE APs) | Add "HE " before "the first "AP" in the cited text | **Revised**  Updated the text in 11.1.3.8.1 to clarify HE AP. Further since HE APs operate on 2.4, 5, or 6 GHz, updated the text to replace “does not operate on 6 GHz” with “operating on 2.4 or 5 GHz”.  TGax editor, please make changes as shown on doc 11-19/1905r2 tagged as 22217 |
| 22115 | Liwen Chu | 287.46 | 11.1.3.8.3 | The RNR for non-transmitted BSSID profiles which are not in Probe Response is not completetely defined. | Change the RNR definition per the comment. | **Revised**  802.11ax D5.0 enables an AP to advertise information about nonTxBSSIDs via the RNR element. Added a note to clarify.  Further in clause 11.1.3.8.3, both Beacon and Probe Response frames can advertise nonTxBSSIDs that are not included in the Multiple BSSID element via the RNR element. Clarified the text to say “Beacon **and** Probe Response frames”.  TGax editor, please make changes as shown on doc 11-19/1905r2 tagged as 22115 |
| ~~22122~~ | ~~Liwen Chu~~ | ~~301.48~~ | ~~11.5~~ | ~~Co-Located AP subfield in the same BSS Parameters subfield may have different values for BSSIDs in the same BSS Parameters subfield.~~ | ~~Change the paragraph per the comment~~ | **~~Rejected~~**  ~~The comment has not clearly identified any issues. Per the current spec, an AP that transmits an RNR element advertised each BSSID (in a multiple BSSID set) separately. Therefore, when an AP corresponding to TxBSSID advertises nonTxBSSIDs in the multiple BSSID set that it belongs to, the Co-Located AP subfield is set to 1 for each nonTxBSSID it advertises.~~ |
| 22281 | Mark RISON |  | 11.1.3.8.1 | There are references to BSSIDs that are "discoverable", but there is no explanation of what this means | At the end of the first para add "A BSSID is discoverable if the AP includes information on it in beacons it transmits (though not necessarily every beacon)." | **Revised**  Added a note to clarify the meaning of discoverable BSSID  TGax editor, please make changes as shown on doc 11-19/1905r2 tagged as 22281 |

* Neighbor AP Information field

***TGax Editor: Please add a note as shown below in this subclause (11ax D5.0 P166L55)***

The Transmitted BSSID subfield is set to 1 to indicate that the reported AP is a transmitted BSSID. It is set to 0 it the reported AP is a nontransmitted BSSID. It is reserved if the Multiple BSSID subfield is set to 0

NOTE – An AP corresponding to the transmitted BSSID of a multiple BSSID set can advertise one or more nontransmitted BSSIDs in the set by setting the Co-Located subfield to 1, the Multiple BSSID subfield to 1 and the Transmitted BSSID subfield to 0 in the BSS Parameters subfield of Neighbor AP Information field. In such case, the Operating Class and Channel Number fields of Neighbor AP Information field carry values that indicate the operating class and channel number of the transmitting AP (i.e., the transmitted BSSID).[22115]

* Discovery of a nontransmitted BSSID profile

***TGax Editor: Please make changes to the 2nd paragraph in this subclause as shown below:***

[22115]An EMA AP operating in the 2.4 GHz or 5 GHz band should include in Beacon and Probe Response frames a Reduced Neighbor Report element carrying information about nontransmitted BSSIDs that are not advertised in the Multiple BSSID element carried in that frame. The EMA AP does this to aid the fast discovery of all nontransmitted BSSIDs in the multiple BSSID set that are discoverable.

* General

***TGax Editor: Please make changes to this subclause as shown below:***

Change the 1st paragraph as follows:

A STA that supports the Multiple BSSID capability has dot11MultiBSSIDImplemented equal to true and shall set to 1 the Multiple BSSID field of the Extended Capabilities elements that it transmits. Support for the Multiple BSSID capability is mandatory for a FILS STA and non-AP HE STA. An AP that supports enhancements related to the discovery and advertisement of a nontransmitted BSSID shall set the Enhanced Multi-BSSID Advertisement Support bit in the Extended Capabilities element to 1 and is referred to as an EMA AP. A 6 GHz AP with dot11MultiBSSIDImplemented equal to true and advertising a partial list of nontransmitted BSSID profiles shall operate as an EMA AP. [22217]When an HE AP operating in 2.4 GHz or 5 GHz band that has dot11MultiBSSIDImplemented equal to true and advertises a partial list of nontransmitted BSSID profiles intends a non-AP STA to discover the complete list of nontransmitted BSSID profiles, where a complete list of nontransmitted BSSID profile comprises only BSSIDs that are discoverable, the AP shall operate as an EMA AP.

NOTE – A BSSID is discoverable if the AP includes information of that BSSID in its Beacon and Probe Response frames (though not necessarily every frame).[22281]