IEEE P802.11
Wireless LANs

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| PDT for CC36 Resolution for CID 5363  |
| Date: 2021-07-06 |
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Abstract

This submission proposes CR for CID 5363 (CC36).

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

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

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

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| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 5363 | Jay Yang | 135/30 | 9.4.2.295b.3 | Allow/deny list feature is widely used in current AP products. In current design, the AP may not send probe response if the MAC address of a specified non-AP STA is added in the deny list when receives the probe request This is because it doesn't make sense in such case if the AP intends to refuse the connection of a specified non-AP STA, and also it's a waste of resources on both side if the non-AP STA is not aware of such rejection until receiving the association response with the status code equal to reject.Same concern for the MLD, if an AP MLD adds the MLD MAC address of a non-AP MLD to its deny list, AP MLD may not respond with ML probe response after receiving the ML probe request in which the MLD MAC address matches with one of the addresses contained in the deny list.Besides, considering the buffer size of deny list, AP MLD may only store the MLD MAC rather than each link address of non-AP MLD | AP MLD may identify a non-AP MLD with its MLD MAC address, and may not send ML probe response if the MAC address matches the deny list. Therefore, the MLD MAC address shall be present in ML probe request frame. | **Revised**Agree in principle with the comment.MLD address shall be always present in ML element of ML probe request frame.**TGbe editor please implement changes as shown in doc 11-21/1154r0 tagged as 5363.** |

4019, 4734, 5039, 5940, 6237, 6238, 6677, 6678, 6707, 7705, 8166, 8290

## Discussion

As described by the commenters, allow/deny list feature is widely used in current AP products. The AP may not send probe response to void the association phase happened if the MAC address of a specified non-AP STA is added within the deny list (or not added to the allow list) when receiving the probe request frame. However, there is no rule to claim it in 802.11 specification, as allow/deny function relies on the implementation.

The same concern for the AP MLD, but consider the memory limitation for the design of allow/deny list, AP MLD may only store the MLD MAC rather than each link MAC address of non-AP MLD, that’s, AP MLD may not respond with ML probe response after receiving the ML probe request frame in which the MLD MAC address matches with the deny list.

 Therefore, the MLD MAC address shall be always present in ML probe request to support such implement.

Besides, the intention is to prevent a set of non-AP MLDs from discovering the AP MLD via ML probe request/response frame exchange. Some of the non-AP MLDs that send (ML)probe request frame with random MAC address or receive Beacon frame via passive scan still can bypass it and enter association phase.

*TGbe editor: Please note baseline is 11be D1.01*

9.4.2.295bMulti-Link element

9.4.2.295b.3 Probe Request variant Multi-Link element

 [CID 5363]

*TGbe editor: please modify clause 9.4.2.295b.3 as follows:*

The Probe Request variant Multi-Link element is used to request an AP to provide information of other APs affiliated with the same AP MLD as the AP. The inclusion of a Probe Request variant Multi-Link element in a Probe Request frame identifies it as an ML probe request(#2583)(#3360).

The format of the Common Info subfield of the Probe Request variant Multi-Link element is defined in Figure 9-788xx (Common info subfield of the Probe Request variant Multi-Link element format) (#5363).

 MLD MAC address

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 **Figure 9-788xx—Common Info field of the Probe Request variant Multi-Link element format** (#5363).

The MLD MAC address subfield for the non-AP MLD in the Common Info field is present in the Probe Request variant Multi-Link element.

(#1732)(#1834)(#3247)(#2587)The Link Info field contains zero or more Per-STA Profile subelements.

*TGbe editor: please modify clause 11.1.4.3.4 as follows:*

**11.1.4.3.4 Criteria for sending a response(11ai)**

(#4770)(#2010)If a STA that receives a Probe Request frame is not in a multiple BSSID set, that STA shall

send the Probe Response frame(s), subject to the criteria below. If a STA that receives a Probe Request frame is in a multiple BSSID set, the STA corresponding to the transmitted BSSID shall send the Probe Response frame(s), subject to the criteria below; other STAs in the multiple BSSID set shall not send a Probe Response frame.

Option1:

Note: a STA that receives a Probe Request frame may not send a probe response frame in some implementation out of the scope of this standard.

A STA that receives a Probe Request frame shall not respond if any of the following apply:

a) The STA does not match any of the following criteria:

1) The STA is an AP.

2) The STA is an IBSS STA.

3) The STA is a mesh STA.

4) The STA is a DMG STA that is not a member of a PBSS and that is performing active scan as

defined in 11.1.4.3.3 (Active scanning procedure for a DMG STA).

5) The STA is a PCP.

Option 2:

b) The Address 1 field of the Probe Request frame and/or MLD MAC address subfield in common Info field contains an individual address and one of thefollowing criteria is met:(#2010)

1) The STA is not a member of a multiple BSSID set, and the individual address is not the MAC

address of the STA.

2) The STA is a member of a multiple BSSID set, and the individual address does not match the

BSSID of any of the BSSs in the multiple BSSID set.

c) The Address 2 field of the Probe Request frame and/or the MLD MAC address subfield in common Info field contains an individual address and one of thefollowing criteria is met:

1) The individual address is not in the deny list enabled by the STA or the STA corresponding MLD, and the individual address is in the allow list enabled by the STA or the STA corresponding MLD

c) The STA is a non-AP STA in a DMG(#4480) infrastructure BSS and the Address 1 field of the Probe Request frame contains the broadcast address.