IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 275 Resolution for CIDs assigned to Abhi – Part 9 | | | | |
| Date: September 12, 2023 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Abhishek Patil | Qualcomm Inc. |  |  | appatil@qti.qualcomm.com |
| Gaurang Naik |  |  |  |
| George Cherian |  |  |  |
| Alfred Asterjadhi |  |  |  |
| Duncan Ho |  |  |  |
| Yanjun Sun |  |  |  |
| Abdel Karim |  |  |  |

Abstract

This submission proposes resolutions for following CIDs received for TGbe LB275:

19186 19187 19909 19626 20064

**Revisions:**

* Rev 0: Initial version of the document.

***TGbe editor: Baseline for this document is 11be D4.0***

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.

***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.***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Category** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 19909 | Rubayet Shafin | T | 35.3.3.2 | 492.42 | the term "lifetime of the BSS" seems to be used liberally in the draft in the context of multi-link operation without clearly defining it. Clarification is needed, for example, due to operations like ML Reconfiguration and advertised TTLM. The comment also pertains to clarification of the subsequent NOTE 1 in this page. | Please clarify the "lifetime of a BSS". Clarify whether the lifetime of a BSS of an AP affiliated with an AP MLD ends when the AP is removed using ML reconfiguration or when the link is disabled using advertised TTLM. | **Revised**  A NOTE is added to clarify that an affiliated AP’s BSS is terminated if the AP is removed. The same NOTE also clarifies that an affiliated AP’s BSS is maintained when the AP is disabled. Therefore, the link ID is reclaimed when an affiliated AP is removed but is maintained if an affiliated AP’s link is disabled.  **TGbe editor, please make changes as shown in 11-23/1604r0 for CID 19909** |
| 19186 | Matthew Fischer | T | 35.3.3.2 | 492.37 | The following is an unsupported assertion: "based on the AP's BSSID" - there is nothing anywhere in the amendment that says that the Link ID is based on the AP's BSSID. Also see the problematic NOTE 1 a few lines down. NOTE 3 is also problematic - it identifies a lifetime which is different from the lifetime(s) indicated in the text above. | Either modify the preceding phrase to something like: "that uniquely identifies the AP affiliated with" and delete the part that says "based on the AP's BSSID" or provide text that describes how the Link ID is "based on" a BSSID value. And then fix NOTE 1, which makes a similar claim about some sort of derivation between BSSID and Link ID which does not exist. Also fix NOTE 3 which refers to only one lifetime of BSS, but this is incomplete and potentially raises questions if a link is disabled and re-enabled, for example. | **Revised**  Agree in principle. The text is updated to clarify that the link ID uniquely identifies an affiliated AP. The text further clarifies that no two affiliated APs of the same MLD will have the same link ID. The resolution to CID 19909 provides clarification w.r.t link ID and lifetime of the BSS  **TGbe editor, please make changes as shown in 11-23/1604r0 for CID 19186** |
| 19187 | Matthew Fischer | T | 35.3.3.2 | 492.57 | NOTE 4 here is a bit underrepresentative - some of the multi link operations involving any particular AP of an AP MLD do not involve the use of the Link ID, yet this note claims that ALL such operations do involve the Link ID. For example, some operations involving the AP of a link are operations that are done at the AP MLD level and apply to all APs of the AP MLD, and therefore, reference to a Link ID is not needed, thereby making the NOTE incorrect. | Fix the note. | **Revised**  The NOTE is revised to clarify to remove ‘all MLO procedures’ instead focuses only on the ones that require identifying the affiliated AP.  **TGbe editor, please make changes as shown in 11-23/1604r0 for CID 19187** |
| 19626 | Yanjun Sun | T | 35.3.20 | 574.60 | "might" in NOTE creates ambiguity as there is not alternative. The AP must take into account the Index Adjustment TBTT Cound field. Replace "might" with "must" or with "select" only. | As in comment | **Revised**  Agree in principle. The issue pointed by the comment is addressed as a resolution to CID 19794 (motion 617).  **TGbe editor, please make changes as shown in 11-23/1405r2 for CID 19794.** |
| 20064 | Binita Gupta | T | AF.2.3 | 1000.55 | Add another Figure which shows content of the Beacon or non-ML probe response frame for the AP which is being removed for non-multiple BSSID scenario. It will be similar to Figure AF-4, except that RNR will not show the Link ID which is being removed. | Add figure as per comment. | **Revised**  Clarified with the commenter. The request is to add a figure showing removal of the transmitting AP and hence the Link ID is different from the reported APs in the RNR. The resolution provides a new figure to show this case.  **TGbe editor, please make changes as shown in 11-23/1604r0 for CID 20064** |

**35.3.3.2 Link ID**

***TGbe editor: Please update the contents of this subclause as shown below:***

[19186]A link ID is an integer value between 0 and 14 that uniquely identifies an AP affiliated with the AP MLD. At any given time, no two affiliated APs of the same an AP MLD shall have the same link ID. [19909]The link ID associated with an affiliated AP shall not change for the lifetime of the BSS set up by that AP.

[19909]NOTE 1—An affiliated AP’s BSS is terminated when the AP is removed by following the procedures described in 35.3.6.3 (Removing affiliated APs) and as a result, a link ID is no longer assigned to that AP. An affiliated AP’s BSS is not terminated when the link it is operating on is disabled by following the procedure described in 35.3.7.2.4 (Advertised TTLM in Beacon and Probe Response frames) and as a result the affiliated AP maintains the link ID assigned to it.

NOTE 2—An AP MLD does not assign link ID value 15 to any of its affiliated APs since the value 15 is used in the Link ID subfield of Reduced Neighbor Report element to identify a reported AP that is not affiliated with an AP MLD or whose information is not known.

[19909]NOTE 3—Since a link ID identifies an affiliated AP and does not change for the lifetime of the AP’s BSS, the link ID remains unchanged if the AP moves its BSS to a different channel by performing the channel switch procedure described in 11.8.8 (Selecting and advertising a new channel) or 11.9 (Extended channel switching (ECS)).

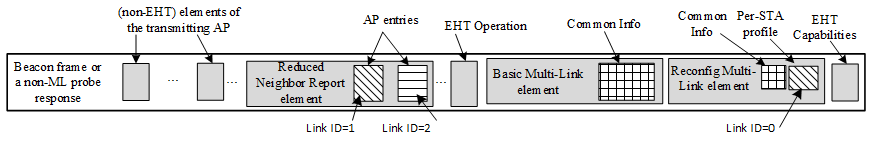
[19187]NOTE 4—A non-AP MLD obtains the link ID assigned to an affiliated AP (and the link that the AP is operating on) during discovery and uses this value for identifying the AP when performing multi-link operations that involve this affiliated AP.

**AF.2.3 Contents of Management frames during ML reconfiguration AP remove operation**[20064]

***TGbe editor: Please update the title of Figure AF-4 as shown below:***

**Figure AF-4—Contents of a Beacon frame or a non-multi-link probe response during ML reconfiguration AP removal of an affiliated AP (non-multiple BSSID scenario)**

***TGbe editor: Please add the following figure after Figure AF-4 as shown below:***



**Figure AF-4a—Contents of a Beacon frame or a non-multi-link probe response during ML reconfiguration AP removal of transmitting AP (non-multiple BSSID scenario)**