IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resolution for miscellaneous CIDs | | | | |
| Date: September 12, 2023 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Gaurang Naik | Qualcomm Inc. |  |  | gnaik@qti.qualcomm.com |
| Abhishek Patil | Qualcomm Inc. |  |  | appatil@qti.qualcomm.com |
| Alfred Asterjadhi | Qualcomm Inc. |  |  | aasterja@qti.qualcomm.com |
| George Cherian | Qualcomm Inc. |  |  | gcherian@qti.qualcomm.com |
| Duncan Ho | Qualcomm Inc. |  |  | dho@qti.qualcomm.com |
| Yanjun Sun | Qualcomm Inc. |  |  | yanjuns@qti.qualcomm.com |
| Abdel Karim Ajami | Qualcomm Inc. |  |  | aajami@qti.qualcomm.com |

Abstract

This submission proposes resolutions for following 3 CIDs received for TGbe LB275:

19156, 19320, 20121

**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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Section** | **Pg.Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 19156 | Srinivas Kandala | 9.4.2.312.2.3 | 251.28 | There are five bits to signal subfield "Frequency Separation For STR/AP MLD Type Indication". This gives a range of 31\*80 = 2480 MHz. However, if one of the channels is 2.4 GHz, the frequency separation with either 5 GHz or 6 GHz is greater than the range that can be indicated by the field. It is likely that in a practical implementation there will be no concern of interference and a value of 0 is sufficient.  One could expand the field by one bit to accommodate larger separations, but perhaps not necessary. | Indicate that this field should be populated with a value of 0 when one of the two channels in the peer is 2.4 GHz and the other is 5 GHz/6 GHz | **Rejected**  The issue cited by the commenter has already been resolved in the 11be draft 4.0. Subclause 35.3.16.2.1, page 555, line 16 states the following:  “*An MLD shall set to 0 every bit in the NSTR Indication Bitmap subfield, if present, of the Basic Multi-Link element that corresponds to a link pair where one of the STAs in the link pair operates in the 2.4 GHz band and the other STA operates in the 5 GHz or 6 GHz band.*” |
| 19320 | Chien-Fang Hsu | 9.3.3.2 | 184.29 | It is possible that the Basic Multi-Link element and the Reconfiguration Multi-Link element are present at the same time. The order of these two ML elements in the Beacon frame needs to be specified. | Add the order rule of the two ML elements. Putting the basic ML element ahead is suggested because parsing Reconfig. ML element is depending on some contents of basic ML element. Similar order rules should also be applied to Probe Response frame. | **Revised**  The issue highlighted by the commenter has been resolved in 11be draft. See P492L29 of 11be Draft 4.0. Rules are added for the case where a Multi-Link element may need to be fragmented.  **TGbe editor: please implement changes shown in this document tagged as 19320.** |
| 20121 | Gaurang Naik | 49 | 639.35 | When the channel switch is to a channel that has at least one punctured subchannel, the affected AP will include a Bandwidth Indication element. The reporting AP will include the corresponding (E)CSA element in the per-STA profile corresponding to the affected AP but the Bandwidth Indication element is not included. Without the bandwidth indication element, the receiving STA will not be aware of the punctured subchannel. | Please add Bandwidth Indication element to the direct inclusion element list in clause 35.3.11 | **Revised**  Agree with the comment in principle. The Channel Switch Wrapper element is included in the list in 35.3.11.  **TGbe editor: please implement changes shown in this document tagged as 20121.** |

***TGbe editor: please note that the baseline is 11be Draft 4.0.***

**35.3.3 Advertisement of multi-link information in Multi-Link element**

**35.3.3.1 General**

***TGbe editor: please add the following paragraph as shown below [CID 19320]***

When different variants of the Multi-Link element (see Table 9-404b (Type subfield encoding)) are included in the same Management frame or as subelements within the same element, then the Multi-Link elements shall appear in ascending order of the value carried in the Type subfield of the Multi-Link Control field of the Multi-Link element.

If a Multi-Link element that is carried in the same frame as another Multi-Link element is fragmented (see 10.28.11), then the resultant Fragment element(s) shall immediately follow that Multi-Link element (#19320).**35.3.11 Multi-link procedures for (extended) channel switching and channel quieting**

***TGbe editor: please update the following paragraph as shown below [CID 20121]***

If an AP (affected AP) affiliated with an AP MLD includes any of the following applicable elements outside the Basic Multi-Link element in the Beacon frame, Probe Response frame or (Extended) Channel Switch Announcement frame it transmits:

* Channel Switch Announcement element
* Extended Channel Switch Announcement element
* Channel Switch Wrapper element

***TGbe editor: please update the following paragraph as shown below [CID 20121]***

If an AP corresponding to the transmitted BSSID in a multiple BSSID set includes any of the following elements in the Beacon frame or Probe Response frame it transmits so that any of these elements is inherited for the affected AP in these frames:

* Channel Switch Announcement element
* Extended Channel Switch Announcement element
* Channel Switch Wrapper element

***TGbe editor: please update the following paragraph as shown below [CID 20121]***

If an AP (affected AP) affiliated with an AP MLD is switching channel, the Channel Switch Announcement element, or the Extended Channel Switch Announcement element with the Channel Switch Count field set to a nonzero value, the Max Channel Switch Time element and the Channel Switch Wrapper element (if applicable) shall be included in every Beacon and Probe Response frames on all links of the AP MLD from the time the affected AP includes the elements in the Beacon frame it transmits until the estimated target switch time. After the estimated target switch time, the Channel Switch Announcement element or the Extended Channel Switch Announcement element or the Channel Switch Wrapper element shall not be included in the per-STA profile corresponding to the affected AP in the Beacon and Probe Response frames and the Max Channel Switch Time element shall be included in the per-STA profile of the affected AP in every Beacon and Probe Response frames on all links of the AP MLD, except the link corresponding to the affected AP, until the affected AP resumes BSS operation on the new channel. The value carried in the Switch Time field indicates the adjusted estimated time of the first Beacon frame in the new channel.