IEEE P802.11
Wireless LANs

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| LB266 CR for subclause 11  |
| Date: 2022-09-30 |
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Abstract

This submission proposes resolutions of comments received from TGbe comment collection LB266 based on TGbe D2.0.

13471 13131 13946 10586 13148 10588 13153 11919 10591 11920 10592 13971 12978 13155 (14 CIDs)

Revisions:

* Rev 0: Initial version of the document.
1. **Introduction**

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. The introduction and the explanation of the proposed changes are 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 802.11be 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** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 13471 | 11.2.3.15 | 305.16 | The critical update event list is not enough since a STA selects to decode TIM frames instead of Beacons will miss the cirical updates of the APs in the other links. Another observation is that no all critical update needs to update of BSS Parameters Change Count. | update the text to fix the issue. | Revised-To avoid decoding TIM frames instead of a Beacon frame, EHT STA is disallowed to support. For the second part, there is no technical issue. Apply the changes marked as #13471 in this document. |
| 13131 | 11.2.3.15 | 305.24 | It is not clear what "about the operational parameters of the AP" is trying to say. "Inclusion of a Quiet element" for example (line 30) is not an operational parameter of the AP, it's a command to the STAs | Revert the insertion | Revised-Agree with the comment in principle. Change "operational parameters" to "BSS parameters". Apply the changes marked as #13131 in this document.Note to TGbe Editor: Change "operational parameters for the AP" to "BSS parameters of the AP" throughout the draft. |
| 13946 | 11.2.3.15 | 305.25 | A non-AP STA, that is awake on one link and in a doze state on all the other links, is currently unable to obtain the TSF and beacon interval(BI) information of the other APs affiliated to the same AP MLD. Changes, if any, to the BI and TSF offset on the other links can be missed by the said non-AP STA. | A change in Beacon Interval (BI) and TSF offset should be classifies as critical updates in addition to the operational parameters already listed in clause 11.2.3.15. | Rejected-Agree with the comment partially. It is important that non-AP MLD shall obtain the beacon interval and TSF offset before the multi-link setup. This could be achieved by the contents presented in the first paragraph in 35.3.4.6 Frame exchange sequences during MLO discovery and multi-link setup. But TSF offset is fixed value, and there is no procedure to announce the change of beacon interval in baseline which implicitly imply the beacon interval is not changed.  |
| 10586 | 11.2.3.15 | 305.32 | Modification, insertion or removal of TPE should be considered as a critical update. | As in comment | Rejected-TPE and TPE\_norminal can be obtained based on the pre-FEC factor and NOMINAL\_PACKET\_PADDING. It doesn't need additional procedure related to critical update. |
| 13148 | 11.8.3 | 327.08 | "An EHT AP shall follow the rules defined in 9.4.2.22 (Quiet element) to set the fields in the Quiet elementand shall not schedule quiet intervals that would require a value higher than 127 in the Quiet Count field." -- all STAs have to honour Clause 9 | Change to "An EHT AP shall not schedule quiet intervals that would require a value higher than 127 in the Quiet Count field (see 9.4.2.22)." | Revised-Agree with the comment in principle. Apply the changes marked as #13148 in this document. |
| 10588 | 11.8.3 | 327.10 | Same rules apply for the Quiet Count field carried in Quiet Channel element. Added text to describe this. Also the paragraph on line 9 doesn't need to be underlined since it is explicitly stated as insertion of a paragraph to baseline spec. | As in comment | Revised-Agree with the comment in principle. Apply the changes marked as #10588 in this document.  |
| 13153 | 11.21.13 | 330.32 | There is no need to ad lib the meaning of "protected or unprotected keepalive frame" and any change in the rules for unprotected keepalive frames should be done in REVme not 11be | Do not change the now shifted seventh paragraph | Revised-Agree with the comment in principle. Revert the change made by 802.11be. Apply the changes marked as #13153 in this document.  |
| 11919 | 11.21.13 | 330.32 | Why has this seventh paragraph changed? Seems out of scope to me. | As in comment. | Revised-Agree with the comment in principle. Revert the change made by 802.11be. Apply the changes marked as #11919 in this document.  |
| 10591 | 11.22 | 331.13 | The support for interworking service needs to be the same across all STAs affiliated with the same MLD. | Add a statement "All STAs affiliated with the same MLD shall advertise the same capability for interworking service" | Revised-Agree with the comment in principle. Revert the change made by 802.11be. Apply the changes marked as #10591 in this document.  |
| 11920 | 11.24.1.2 | 331.48 | These values seem incorrect. Category value for these action frames should be 37 (since they are under protected EHT) and the Action field range should be 3 to 5 I think. Please double check and make sure the values are consistent across the board. | As in comment. | Revised-Agree with the comment in principle. Revert the change made by 802.11be. Apply the changes marked as #11920 in this document.  |
| 10592 | 11.49 | 332.24 | This is not the last paragraph in REVme D1.2 | Please reorganize the text to align with latest baseline. | Revised-Agree with the comment in principle. Revert the change made by 802.11be. Apply the changes marked as #10592 in this document.  |
| 13971 | 11.49 | 332.26 | The TBTT Information Field Type subfield value of 1 is used for an NSTR mobile AP MLD. Therefore, The TBTT Information Field Type subfield value of 1 is a recognized value for EHT STAs. Then an EHT STA will process the TBTT Information field with the TBTT Information Field Type subfield set to 1 following this paragraph. It is not forward compatible. | The current processing method in this paragraph should be for the TBTT Information Field Type subfield set to 0. The processing method for the TBTT Information Field Type subfield set to 1 is required. | Revised-Agree with the comment, the corresponding issue was addressed by the resolution of CID 14114 in DCN 22/1097r2Incorporate the changes marked as #14114 in DCN 22/1097r2.Note to TGbe Editor, there is no further change for this CID. |
| 12978 | 11.49 | 332.28 | Improve wording: "has three possible ways" ==> "has the following possible ways". | As in comment | Revised-Agree with the comment in principle. Apply the changes marked as #12978 in this document. |
| 13155 | 11.49 | 332.44 | "either alternative (1) or (2) or (3)" -- you can't have "either" for 3 things | Change to "any of the alternatives" | Revised-Agree with the comment in principle. Apply the changes marked as #13155 in this document.  |

**Discussion:** None.

***TGbe editor: Please modify the subclause as follows***

**11.8.3 Quieting channels for testing**

***Insert the following paragraph and note at the end of the subclause:***

An EHT AP shallnot schedule quiet intervals that would require a value higher than 127 in the Quiet Count field of the Quiet element and the Quiet Channel element (see 9.4.2.22 (Quiet element)). (#13148, 10588)

NOTE—The Quiet element or the Quiet Channel element carried in a per-STA profile of the Basic Multi-Link element corresponding to a reported AP can have the Quiet Count field set to a value higher than 127 to indicate a quiet interval that the reported AP has started in the past on the link on which the reported AP operates. The number of TBTTs in the past is computed as defined in 9.4.2.22 (Quiet element). (#10588)

**11.49 Reduced neighbor report**

***Change the following paragraph as follows:***

A STA that receives a Neighbor AP Information field with a recognized TBTT Information Field Type subfield but an unrecognized TBTT Information Length subfield ~~shall ignore that Neighbor AP Information field and continue to process remaining Neighbor AP Information fields.~~ has ~~t~~the following possible ways of processing the received information:

—(a) ignore that Neighbor AP Information field and continue to process the subsequent Neighbor AP Information fields

—(b) process the first 13 octets of each TBTT Information field of the Neighbor AP Information field as if the TBTT Information Length subfield had value 13, ignore the remaining TBTT Information Length minus 13 octets of each TBTT Information field of the Neighbor AP Information field, and continue to process the subsequent Neighbor AP Information fields

—(c) process the first 16 octets of each TBTT Information field of the Neighbor AP Information field as if the TBTT Information Length subfield had value 16, ignore the remaining TBTT Information Length minus 16 octets of each TBTT Information field of the Neighbor AP Information field, and continue to process the subsequent Neighbor AP Information fields. (#12978, 10592)

If the unrecognized TBTT Information Length value is less than or equal to 13, the STA shall follow alternative (a). If the unrecognized TBTT Information Length value is greater than 13, an HE STA shall follow alternative (b) and a non-HE STA shall follow either alternative (a) or (b). If the unrecognized TBTT information length value is greater than 16, an EHT STA shall follow alternative (c) and a non-EHT STA shall follow any of the above three alternatives (#13155, 10592).

***TGbe editor: Please add the following paragraph at the end of this subclause***

**35.3.4.6 Frame exchange sequences during MLO discovery and multi-link setup**

A non-AP MLD is expected to (#10313)discover an AP MLD and affiliated AP(s) of interest before initiating a multi-link setup with the AP MLD. The non-AP MLD can use one or a combination of the following methods for discovering the AP MLD and affiliated AP(s) of interest:

—Through each of its affiliated STAs, perform passive scanning by following the procedure defined in 11.1.4.2 (Passive scanning) or active scanning by following the procedure defined in 11.1.4.3 (Active scanning and probing procedures).

—Through one of its affiliated STAs, transmit a (#11318)multi-link probe request on any link that the AP MLD is operating on, with the frame addressed to the affiliated AP operating on that link, to (#10313)obtain information about the AP MLD and its affiliated AP(s) by following the procedure defined in 35.3.4.2 (Use of multi-link probe request and response(#11318)).

**11.21 Wireless network management procedures**

**11.21.13 BSS max idle period management**

***Change the now shifted seventh paragraph as follows:***

A STA may send at least one protected or unprotected keepalive frame per BSSMaxIdlePeriod, as indicated in the Idle Options field. When a STA transmits an unprotected keepalive frame, it shall use a frame that has 48-bit TA and RA fields.(#13153, 11919)

**11.22.2 Interworking capabilities and information**

***Insert the following paragraph and note at the end of the subclause:***

All STAs affiliated with an MLD shall advertise the same capability for an interworking service. (#10591)

**11.24.1.2 Default QMF policy**

***Insert a new row to Table 11-18 (Default QMF policy) as follows:***.

**Table 11-18—Default QMF policy (#11920)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Management Frame Subtype value from Table 9-1 (Valid type and subtype combinations)** | **Category value from Table 9-79 (Category values)** | **Action field** | **QMF access category** |
| EPCS Priority Service | 1101 | 37 | 3-5 | AC\_VO |

***Change the last paragraph as follows:***

**11.2.3.15 TIM Broadcast**

***Change the twelve paragraph by splitting it into two and add additional items as follows:***

The AP shall increase the value (modulo 256) of the Check Beacon field in the next transmitted TIM frame(s) when a critical update occurs to any of the elements inside the Beacon frame.

The following events about the BSS(#13131) parameters of the AP shall classify as a critical update:

A non-AP STA affiliated with a non-AP MLD shall not support TIM Broadcast and shall set to 0 the TIM Broadcast field of the Extended Capabilities elements that it transmits. (13471)