IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resolutions for Exchange Comments in LB276- Part 1 | | | | |
| Date: 2023-09-04 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Cheng Chen | Intel |  |  | cheng.chen@intel.com |

Abstract

This submission proposes resolutions to the following comments submitted in LB276 under Exchange topic. The CIDs are referring to D2.0. The text used as reference is D2.0.

CIDs: 3056 3083 3096 3138 3143 3146 3147 3152 3170 3171 3173 3174 3175 3176 3185 3186 3206 3214 3216 3217 3219 3220 3253 ~~3298~~ 3315 ~~3318~~ 3426 3540 3541 3542 3544

Revision history:

R0: Original version

R1:

* Revised the format of the contribution.
* Updated resolutions to the following CIDs based on discussions at the TGbf call: 3056 3171 3206.
* Took the following CIDs out for further discussions based on requests received offline: 3186 3298 3318.

R2:

* Brought CID 3186 back after offline discussions with the commenter.

R3:

* Format fixes.

R4:

* Format fixes.

R5:

* Corrected typo: “belowv” to “below”

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3056 | 11.55.1.5.2.2 | 146.27 | A shall statement that does not apply to an implementation is not useful. Use descriptive language if defining a term. | Replace with "A TB measurement exchange begins with a polling phase if at least one STA participating in the exchange is to be polled." Or "An AP shall begin a TB sensing measurement exchange with a polling phase if at least one STA is to be polled." | Revised, see proposed resolution below in <DCN1479r5>. |

**Proposed resolution**: Revised.

***TGbf editor, make the following change in 11.55.1.5.2.2 D2.0:***

An AP shall begin a TB sensing measurement exchange ~~shall begin~~ with a polling phase if at least one STA is assigned to be polled. In a TB sensing measurement exchange with a polling phase, if an AP sends a Sensing Polling Trigger frame and receives a CTS-to-self frame from at least one STA, it shall proceed to the NDPA sounding and/or TF sounding phase after a SIFS and if reporting is required, it shall proceed to the reporting phase a SIFS after the NDPA sounding and/or TF sounding phase.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3083 | 11.55.1.5.2.1 | 144.28 | The term "NDPA" should be "an NDPA sounding phase". | Replace "NDPA and/or TF sounding phase" by "an NDPA sounding phase or a TF sounding phase" | Accepted |
| 3143 | 11.55.1.5.2.1 | 144.28 | The term "NDPA/TF sounding phase" ought to be revised to "an NDPA/TF sounding phase." | refers to comment. | Revised. Replace "NDPA and/or TF sounding phase" by "an NDPA sounding phase or a TF sounding phase".  Note: The same change as in the proposed resolution of CID 3083 |

**Proposed resolution**: Accepted for CID 3083. Revised for CID 3143 (Adopt the proposed resolution of CID 3083).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3096 | 11.55.1.5.2.2 | 146.06 | What is an S-MPDU? | There is no S-MPDU so far, please change it to another name. | Rejected. See reason below in <DCN1479r5>. |

**Proposed resolution**: Rejected.

**Discussion**: S-MPDU is clearly defined in REVme and used extensive in many places. See the following definition quoted from REVme D3.1:

**single medium access control (MAC) protocol data unit (S-MPDU):** [S-MPDU] An MPDU that is the only MPDU in an aggregate MPDU (A-MPDU) and that is carried in an A-MPDU subframe with the EOF subfield of the MPDU delimiter field equal to 1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3138 | 9.3.1.22.14.6 | 41.05 | Delete the paragraph in page 40 L62-65 as it is duplicated in page 41 L5-7. | As per comment | Accepted |
| 3147 | 9.3.1.22.14.6 | 41.05 | Delete the paragraph in page 40 L62-65 as it is duplicated in page 41 L5-7. | As per comment | Accepted |

**Proposed resolution**: Accepted for both.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3146 | 9.3.1.19.1 | 31.13 | Change "frames" to "frame" | As per comment | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3152 | 9.4.2.296 | 70.56 | Change "if used in FTM; or time 0 per the recipient STA (i.e., AP)'s TSF if used in sensing" to | if used in FTM; or time 0 per AP's TSF if used in sensing | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3170 | 11.55.1.5.1 | 143.21 | Change "may" to "shall" as MEID is the required method to identify a sensing measurement exchange | As per comment | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3171 | 11.55.1.5.2.1 | 145.53 | Delete the paragraph containing the text "The uplink power control, timing, and frequency synchronization requirements of unassociated STAs performing a TB sensing measurement exchange shall follow the same rules as those of associated HE STAs." as the same text exists in P150 L10-12 | As per comment | Revised. Replace the paragraph P145 L52-54 with P150 L10-12 and delete P150 L10-12 after that. |

**Proposed resolution**: Revised.

***TGbf editor, make the following change:***

Replace the paragraph P145 L52-54 with P150 L10-12 and delete P150 L10-12 after that.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3173 | 11.55.1.5.2.2 | 147.07 | Change the text "The AP shall indicate the extra TB sensing measurement exchange by setting the More TF field in the Common Info field to 1 and the RA field to the broadcast address in the Sensing Polling Trigger frame. " to | The AP shall indicate the extra TB sensing measurement exchange by setting the More TF field in the Common Info field to 1 and the RA field to the broadcast address in the corresponding Sensing Trigger frames (i.e., Polling, SR2SI Sounding, SR2SR Sounding and Reporting) sent during this TB sensing measurement exchange. | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Propoed resolution** |
| 3174 | 11.55.1.5.2.2 | 147.13 | Change the text "If the AP sets the More TF field to 1 in the Sensing Polling Trigger fame of the preceding TB sensing measurement exchange, and if there are no additional TB sensing measurement exchanges within the same sensing availability window, the AP shall set the More TF field in the Common Info field to 0 and the RA field to the broadcast address in the next Sensing Polling Trigger frame. Upon receipt of such a frame, a STA that has not been addressed by a User Info field in the Sensing Polling Trigger frame may enter doze state if no other condition requires this STA to remain awake." to | Modify the text as below or its equivalent so that it exploits More TF bit indication within all sensing trigger frames of TB measurement exchange.  If the AP sets the More TF field to 1 in the Sensing Trigger fame(s) of the preceding TB sensing measurement exchange, and if there are no additional TB sensing measurement exchanges within the same sensing availability window, the AP shall set the More TF field in the Common Info field to 0 and the RA field to the broadcast address in follow up Sensing Trigger frame(s) corresponding to the next TB sensing measurement exchange. Upon receipt of such a frame, a STA that has not been addressed by a User Info field in the Sensing Polling Trigger frame may enter doze state if no other condition requires this STA to remain awake. | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Propoed resolution** |
| 3175 | 11.55.1.5.2.3 | 148.24 | Change the text "and the transmitter may use one of the EHT puncturing patterns specified in Table 36-30 (Definition of the Punctured Channel Information field in the U-SIG for an EHT MU PPDU using non-OFDMA transmissions)" to | and the transmitter shall use the EHT puncturing pattern indicated in the Disabled Subchannel Bitmap subfield of the EHT Operation element which is one of the non-OFDMA puncturing patterns defined in the Table 36-30 (Definition of the Punctured Channel Information field in the U-SIG for an EHT MU PPDU using non-OFDMA transmissions) whose corresponding PPDU bandwidth value in the table is equal to the operating channel width of the BSS. Similar text is used in 802.11be D3.2 P663 L1-2. | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Propoed resolution** |
| 3176 | 11.55.1.5.2.4 | 149.19 | Change the text "A sensing responder may transmit an SR2SI NDP using more than one spatial stream. " to | A sensing responder may be assigned to transmit an SR2SI NDP using more than one spatial stream. | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3185 | 11.55.1.5.3.1 | 154.38 | Change the two occurrences of "consist of" to "include" | As per comment | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |  |
| 3186 | 11.55.1.5.3.3 | 154.44 | Delete the text "or to a reserved value" as for non-TB the field always indicates the RSSI target power | As per comment |  |

**Proposed resolution**: Rejected.

**Discussion**: When the non-AP STA is only the transmitter in a non-TB sensing measurement exchange, the SR2SI NDP is not actually used for sensing, so the SR2SI NDP RSSI Target field can be set to a reserved value.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3206 | 11.55.1.5.2.1 | 144.42 | Add "if required" before "reporting phases" | as in comment | Revised. See proposed changes below in <DCN1479r5>. |

**Proposed resolution**: Revised.

**Discussion**: The commenter seems to think the reporting phase is not always present, so we should add “if required” before the “reporting phases”. However, none of the phases in a TB sensing measurement exchange is always present. So, if we add “if required” before “reporting phase” using this argument, we should add “if required” to all of them.

However, this will make the sentence rather cumbersome. Instead, why not simply delete the “if required”? The sentence only says the sensing initiator and sensing responder should only perform sensing activities related to these phases but does not intend to say any of them is always present. In D2.0 we have already clearly explained when each of the phases will be present.

***TGbf editor, make the following change in 11.55.1.5.2.1 D2.0:***

Within each sensing availability window, the sensing initiator and sensing responder(s) should not transmit or trigger transmission of any Data frames and instead should only perform sensing activities related to polling, NDPA sounding, TF sounding, ~~and~~ reporting ~~phases~~, and ~~if required~~ SBP reporting~~, see 11.55.2.3 (Reporting)~~.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3214 | 11.55.1.5.2.1 | 144.58 | Is it better for this sentence block (starting from line 58) to move below a sentence block starting from line 46 because both sentence describes TF sounding phase ? | As in comment | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3216 | 11.55.1.5.2.1 | 144.20 | Add SIFS between each phases in Figure 11-75b like Figure 11-75c to align apperance of all related diagrams in the section 11.55.1.5.2  Same comment to Figure 11-75d, Figure 11-75e. | As in comment | Rejected. See reason below in <DCN1479r5>. |
| 3219 | 11.55.1.5.3.3 | 156.51 | Add SIFS between each phases in Figure 11-75j like Figure 11-75i to align apperance of all related diagrams in the section 11.55.1.5.3  Same comment to Figure 11-75k. | As in comment | Rejected. See reason below in <DCN1479r5>. |

**Proposed resolution**: Rejected.

**Discussion**:

1. SIFS is a type of interframe spacing that is used to separate two frame transmissions, not two phases. As Figure 11-75b, 11-75d, 11-75e, 11-75j, and 11-75k are used to illustrate high-level structures of a TB/non-TB sensing measurement exchange and a sensing availability window and none of them has shown specific frame transmissions, we do not need to add interframe spacing to these figures. In contrast, Figure 11-75c and Figure 11-75i are used to show the specific frame transmission sequence in a TB sensing measurement exchange and non-TB sensing measurement exchange respectively, so they are more appropriate places to add interframe spacings in those two figures.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3217 | 11.55.1.5.2.1 | 145.50 | STA6 is not polled but participate in NDPA sounding phase and reporting phase. Need some NOTE to explain difference in behavior between STA4/STA5 (which are polled) and STA6 (which is not polled). | As in comment | Rejected. See reason below in <DCN1479r5>. |

**Proposed resolution**: Rejected.

**Discussion**:

1. P145L7-9 already explains the behavior difference requested by the commenter.
   1. In the polling phase, the AP polls five STAs (i.e., STA1 to STA5) that are assigned to bepolled, where STA1, STA2, and STA3 are sensing transmitters and STA4 and STA5 are sensing receivers. STA6 is a sensing responder and sensing receiver but is not assigned to be polled.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3220 | 11.55.1.5.3.1 | 154.35 | "minimum time interval" means value in "Min Time Between Measurements" subfield in Figure 9-1002bi ? Probably sentence from line 44 may explain it though, more clearer description is preferred. | As in comment | Revised. See proposed changes below in <DCN1479r5>. |

**Proposed resolution**: Revised.

***TGbf editor, make the following change in the 1st paragraph- in 11.55.1.5.3.1 D2.0:***

The AP may limit the frequency with which the non-AP STA can initiate a non-TB sensing measurement exchange by conveying a minimum time interval between two consecutive non-TB sensing measurement exchanges in the Min Time Between Measurements field in the Sensing field during the sensing capabilities exchange.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3253 | 11.55.1.5.2.2 | 146.23 | remove ( ) around modulo 8 to make it consistent with how it is written e.g. on page 148, l.63 |  | Accepted |

**Proposed resolution**: Accepted.



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3315 | 11.55.1.5.2.1 | 144.23 | A better wording is needed. | Change to: If polling phase and TF sounding phase are present and NDPA sounding phase is not present in a TB sensing measurement exchange, the TF sounding phase shall start a SIFS after the polling phase. If polling phase and NDPA sounding phase are present in a TB sensing measurement exchange, the NDPA sounding phase shall start a SIFS after the polling phase. If both NDPA sounding phase and TF sounding phase are present in a TB sensing measurement exchange, the TF sounding phase shall start a SIFS after the NDPA sounding phase. | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3426 | 11.55.1.5.2.4 | 150.01 | Please insert "it" between "that is" so that the subclause reads "that it is capable of ..." | As in comment | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3540 | 11.55.1.5.2.4 | 149.57 | In the paragraph "All the SR2SI Rep fields in the User Info fields of the Sensing Sounding Trigger frame shall be set to the same value. This value indicates the number of HE-LTF repetitions in the SR2SI NDP and shall not exceed any of the aSensingSRTXRep for the corresponding non-AP STA(s) triggered by this Sensing Sounding Trigger frame." | "sensing" sounding trigger frame should be "SR2SI" sounding triger frame | Accepted |
| 3541 | 11.55.1.5.2.4 | 150.05 | In the paragraph "The AP shall set the TXVECTOR parameter CH\_BANDWIDTH of the Sensing Sounding Trigger frame to a bandwidth......" | "sensing" sounding trigger frame should be "SR2SI" sounding triger frame | Accepted |
| 3542 | 11.55.1.5.2.4 | 150.22 | In the paragraph "......in the Sensing Sounding Trigger frame to the same trigger poll counter value as the Token field in the Sensing Polling Trigger frame whose partial TSF time is carried in the Sensing Sounding Trigger frame." | "sensing" sounding trigger frame should be "SR2SI" sounding triger frame | Accepted |

**Proposed resolution**: Accepted.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** | **Proposed resolution** |
| 3544 | 11.55.1.5.3.4 | 157.25 | There is a space between 3 and 7 in the senstence "aSensingReportSegmentSize shall be 3 750 octets.". | change the number 3 750 to 3750 | Accepted |

**Proposed resolution**: Accepted.

## SP

Do you support the proposed resolutions to the CIDs and incorporate the text changes into the latest TGbf draft?

Y/N/A