IEEE P802.11
Wireless LANs

|  |
| --- |
| Resolutions for Instance Comments in LB272 - Part 1: Non-TB sensing measurement |
| Date: 2023-04-13 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Cheng Chen | Intel |  |  | cheng.chen@intel.com |
| Ali Raissinia | Qualcomm |  |  | alirezar@qti.qualcomm.com |

Abstract

This submission proposes resolutions to the following comments submitted in LB272 under Instance topic. The CIDs are referring to D1.0. The text used as reference is D1.0.

CIDs: 1015 1381 1482 1567 1762 2003 2204 1043 1148 1149 1150 1151 1152 1565 1566 1894 1572 1741 1742 1743 1744 1919 1960 1961 2041 2042 2291

Revision history:

R0: Original version

R1: Revised based on offline comments received.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1015 | 11.55.1.5.3.3 | 186.47 | In figure 11-74.i, the upper and lower traces are not labeled (e.g., AP/non-AP STA or Initiator/Responder) | Add labels to the figure |
| 1381 | 11.55.1.5.3.3 | 186 | In figure 11-74i it would be nice to add a at the left of each timeline, which line belongs to the AP/responder and which to the STA/initiator | As in comment |
| 1482 | 11.55.1.5.3.3 | 186 | In Figure 11-74i, timeline doesn't mention which is for sensing initiator or sensing responder. |  |
| 1567 | 11.55.1.5.3.3 | 186.64 | There is no indication in Figure 11-74i referring to which is the AP and which is the non-AP in the frame exchange sequence. | Edit the figure to indicate the AP and the non-AP STAs. |
| 1762 | 11.55.1.5.3.3 | 186.64 | Figure 11-74i can be improved by identifying who transmit the specific frames | as in comment |
| 2003 | 11.55.1.5.3.3 | 186.53 | Figure 11-74i shows two time lines for an non-TB sensing initiator and non-TB sensing responder. However, the time lines are not labeled. Please add the label "AP responder" to the first time line and the label "non-AP STA initiator" to the second time line. | As in comment |
| 2204 | 11.55.1.5.3.3 | 186.47-186.60 | It is not clear who sends Sensing NDPA and who sends SR2SI NDP in Figure 11-74i. | Add sensing initiator and sensing responder or non-AP STA and AP to Figure 11-74i. |

**Proposed resolution**: Revised to all.

**Discussion**: Propose to update the figure with the following one.

***TGbf editor, make the following change in D1.0:***

**Replace Figure 11-74i with the following one:**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1043 | 11.55.1.5.3.1 | 185.27 | The word "shall" is not used properply in the context, as all the possible roles are covered in the sentence. | Delete "shall" or change it to "can". |

**Proposed resolution**: Rejected.

**Discussion**: The commenter says, “all the possible roles are covered in the sentence”. This is not correct, because the option of neither a sensing transmitter nor a sensing receiver is ruled out by this sentence. Therefore, the “shall” requiremet in this sentence basically mandates that the the non-AP STA in a non-TB sensing measurement instance cannot choose the option of being neither a sensing transmitter nor a sensing receiver.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1148 | 11.55.1.5.3.2 | 185.51 | Suggest deleting "acting as a sensing initiator". It is not needed. If it is not clear in 11.55.1.5.3.1 that the sensing initiator of a non-TB sensing measurement instance shall be a non-AP STA, such normative text should be included there. | As suggested. |

**Proposed resolution**: Accepted. TGbf editor should delete the “acting as a sensing initiator” in the referred sentence.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1149 | 11.55.1.5.3.2 | 185.60-185.63 | The sentence "The non-AP STA transmitting the SI2SR NDP shall set the TXVECTOR... preceding Sensing NDP Announcement frame" has the same content as the sentence "The non-AP STA shall transmit... carrying the Sensing NDP Announcement frame" in the prior paragraph. This repetition is not needed. | Delete "The non-AP STA shall transmit... carrying the Sensing NDP Announcement frame" in 185.54-55. |
| 1150 | 11.55.1.5.3.2 | 185.63 | The sentence "An AP transmitting an SR2SI NDP shall set... or the SI2SR NDP, respectively." has the same content as "the AP shall transmit an SR2SI NDP... carrying the Sensing NDP Announcement frame" in the prior paragraph. This repetition is not needed. | Delete "the AP shall transmit an SR2SI NDP... carrying the Sensing NDP Announcement frame" in 185.56-58. |

**Proposed resolution**: Accepted to both.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1151 | 11.55.1.5.3.2 | 186.10 | "... by setting both the SR2SI NSTS subfield and SR2SIRep subfield to 0" Necessary to determine the frame (or TXVECTOR or MLME primitive?) used for this configuration. | As noted. Same change is needed in 186.13. |

**Proposed resolution**: Rejected.

**Discussion**: The first part of this sentence already specifies the configuration is done by the Sensing NDP Announcement frame.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1152 | 11.55.1.5.3.2 | 186.15 | The sentence "If the bandwidth of the PPDU... Is less than or equal to 160 MHz" is not needed given that HE Ranging NDPs have this constraint. | Delete "If the bandwidth of the PPDU... Is less than or equal to 160 MHz". Move the note "NOTE-In non-TB sensing..." (186.28) one paragraph up (after the paragraph in 186.15-19). |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1565 | 11.55.1.5.3.1 | 185.31 | bad comma | Remove the comma in "... a non-TB sensing measurement instance, by assigning a minimum time..." |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1566 | 11.55.1.5.3.1 | 185.44 | wrong article | Change the text to " ... associated with the same ... " |
| 1894 | 11.55.1.5.3.1 | 185.44 | change "a same" to "the same" | As in comment. |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1572 | 11.55.1.5.3.2 | 185.64 | NDP Announcement frame has no bandwidth | " ... the bandwidth of the PPDU carrying the Sensing NDP Announcement frame ... " |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1741 | 11.55.1.5.3.1 | 185.32 | Add the phrase "during the Session setup" at the end of the text "by assigning a minimum time interval between two consecutive non-TB sensing measurement instances" to read | by conveying a minimum time interval between two consecutive non-TB sensing measurement instances during the Session setup. |

**Proposed resolution**: Revised.

**Discussion**: We have agreed to replace the “session setup” with “sensing capabilities excahnge”.

***TGbf editor, make the following change in D1.0:***

***Modify the last sentence in the 1st paragraph of 11.55.1.5.3.1 as follows:***

The AP may limit the frequency with which the non-AP STA can initiate a non-TB sensing measurement instance~~,~~ by ~~assigning~~ conveying a minimum time interval between two consecutive non-TB sensing measurement instances during the sensing capabilities exchange.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1742 | 11.55.1.5.3.1 | 185.48 | Add normative text allowing the non-AP STA to use any AC to perform channel access | Add a new paragraph "An ISTA may use any AC to transmit the Sensing NDP Announcement frame." to the spec |

**Proposed resolution**: Revised.

**Discussion**: Similar normative text also exists in 11az spec. Instead of adding the normative text in 11.55.1.5.3.1 as suggested by the commenter, we should better add it to 11.55.1.5.3.2 since sending the Sensing NDP Announcement frame is part of the measurement sounding phase of a non-TB sensing measurement instance.

***TGbf editor, make the following change in D1.0:***

***Add the following paragraph at the end of Section 11.55.1.5.3.2***

The non-AP STA may use any AC to transmit the Sensing NDP Announcement frame.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1743 | 11.55.1.5.3.2 | 185.59 | Add normative text to specify the use of Sounding dialog token | Add a new paragraph "The non-AP STA maintains a sounding dialog token counter modulo 64 for each non-TB sensing measurement instance. When transmitting a Sensing NDP announcement frame to an AP corresponding to a measurement setup ID, the Sounding Dialog Token Number subfield in the Sounding Dialog field shall be set to the value of the corresponding counter representing the measurement instance ID; after which the counter shall be incremented by 1 |

**Proposed resolution**: Accepted.

**Discussion**: Similar normative text also exists in 11az spec.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1744 | 11.55.1.5.3.2 | 186.29 | Add a new paragraph to include normative text for transmission of STA Info with AID subfield equal to 2045 and its subfields for the Sensing NDP Announcement frame | Add a new paragraph such as "When transmitting a Sensing NDP Announcement frame as part of the Non-TB sensing measurement instance the non-AP STA shall transmit once STA info field with AID subfield set to 0 with unicast RA field set to the AP's MAC address. It shall also include in the first STA Info field with AID11 subfield equal to 2045 the corresponding Measurement Setup ID subfield and the SI2SR NDP TX power subfield set to indicate the TX power of the following SI2SR NDP in addition to the SI2SR NDP RSSI Target Power subfield representing the preferred receive power of SR2SI NDP in the next Non-TB sensing measurement instance" or equivalent. |

**Proposed resolution**: Revised.

**Discussion**: Similar normative text also exists in 11az spec. The proposed text from the commenter needs some minor revision.

***TGbf editor, make the following change in D1.0:***

***Add the following paragraph at the end of Section 11.55.1.5.3.2***

When transmitting a Sensing NDP Announcement frame in a non-TB sensing measurement instance, the frame shall be transmitted by the non-AP STA as unicast with the RA field set to the address of the AP and contain one STA Info field with the AID11 field set to 0. It shall also include in the first STA Info field with AID11 field set to 2045, and the SI2SR NDP TX Power field shall be set to indicate the TX power of the following SI2SR NDP. The SR2SI NDP RSSI Target Power field shall be set to the preferred receive power of the SR2SI NDP in the next non-TB sensing measurement instance.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1919 | 11.55.1.5.3.1 | 185.30 | replace medium with channel or wireless medium | As in comment. |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1960 | 11.55.1.5.3.2 | 186.11, 186.13 | Improve clearity of description of optimization by changing "to be transmitted" to "to be transmitted with minimal length". This occurs in 2 places on line 11 and 13. | Add "with minimal length" in both cases as in comment. |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1961 | 11.55.1.5.3.2 | 187.17, 187.34 | Change "Instance ID" to "Measurement instance ID" in Figures 11-74j and 11-74k. | As in comment. |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 2041 | 11.55.1.5.3.1 | 185.35 | "A non-TB sensing measurement instance shall always consist of a measurement sounding phase". Add reference to 11.55.1.5.3.2. | See comment |

**Proposed resolution**: Accepted.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 2042 | 11.55.1.5.3.1 | 185.49 | A figure would be nice to illustrate "measurement sounding phase" | See comment |

**Proposed resolution**: Rejected.

**Discussion**: Figure 11-74i already illustrates the measurement sounding phase in a non-TB sensing measurement instance.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 2291 | 11.55.1.5.3 | 185.35 | If sensing transmitter is set to 0 (and sensing receiver set to 1) in measurement setup request, then sensing measurement report requested shall be set to 1 to prevent measurement setup expiry in non-TB measurement instance | add the requirement |

**Proposed resolution**: Rejected.

**Discussion**:

1. For a non-TB sensing measurement instance, the non-AP STA is the sensing initiator, and the AP is the sensing responder. If the Sensing Transmitter field in the Sensing Measurement Setup Request frame is set to 0 and the Sensing Receiver field is set to 1, it means the AP should be the sensing receiver, and the non-AP STA should be the sensing transmitter. In this case, it is up to the non-AP STA to decide whether it needs the AP to send the Sensing Measurement Report frames in a non-TB Sensing measurement instance. So, the Sensing Measurement Report Requested field can be set to either 1 or 0, as already specified in Section 9.4.2.319. As a result, what the commenter suggests is not correct based on current rules defined in 11bf D1.0.

The Sensing Measurement Report Requested subfield is reserved if the Sensing Receiver subfield is set to 0. If the Sensing Receiver subfield is set to 1,

— the Sensing Measurement Report Requested subfield is set to 1 to indicate that the sensing responder

sends Sensing Measurement Report frames in sensing measurement instances that result from the sensing measurement setup.

— the Sensing Measurement Report Requested subfield is set to 0 to indicate that the sensing responder

does not send Sensing Measurement Report frames in sensing measurement instances that result from the sensing measurement setup.

1. The commenter might think the only way for the AP and non-AP STA to know that the exchange is complete and both parties are present during the non-TB Sensing measurement instance is for the AP to send report. That is not correct as the AP needs to send SR2SI NDP, which is another way that the non-AP STA is aware that the exchange is taking place without needing to deliver the report.

## SP

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

Y/N/A