IEEE P802.11Wireless LANs

|  |
| --- |
| Proposed Resolutions to Several 11bk LB286 Comments  |
| Date: 2024- 07-1 |
| Author(s): |
| Name | Company | Address | Phone | email |
| Qi Wang | Apple Inc.  |  |  | qi\_wang2@apple.com |
| Yanjun Sun |  |  |  |  |
| Tianyu Wu |  |  |  |  |
| Wook Bong Lee |  |  |  |  |

Abstract

This submission proposes the resolutions to a few 11bk LB286 comments.

The page and line numbers refer to those in 11bk\_D2.0 [1].

**Introduction**

This submission proposes the resolutions to 11bk LB286 CIDs 2060, 2061, 2133, 2134 and 2106.

The page and line numbers refer to those in 11bk\_D2.0 [1].

**Comment:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Page.Line | Clause | Comment | Proposed change | Resolution |
| 2060 | Yanjun Sun | 40.07 | 11.21.6.4.3.4 | It is unclear what're the BSS\_COLOR and STA\_ID settings in the LMR frames in HE/EHT PPDUs, especially for unassociated STA. Please help clarify. The same comment applies to 11.21.6.4.4.3 for Non-TB ranging and 11.21.6.4.8.4 for passivng TB ranging. | As in comment | Revised. Agree with the commenter in principle, and text clarification is needed. TGbk editor: Please incorporate the proposed text change tagged with 2060 in this document. |
| 2061 | Yanjun Sun | 76.02 | 11.21.6.4.8.4 | It is unclear what PPDUs are allowed to carry the Primary and Secondary RSTA Broadcast Passive TB Ranging Measurement Report frames. Due to its broadcast nature, the "MU" flavor of HE/EHT PPDUs doesn't look to provide technical advantage to the "SU" flavor of them, so it may help reduce complexity by leaving out the "MU" flavor. In addition, as the frames are both for associated and unassociated STAs, the settings of the BSS\_COLOR and STA\_ID is unclear. Please help clarify | As in comment | Revised. Agree with the commenter in principle, and text clarification is needed. TGbk editor: Please incorporate the proposed text change tagged with 2061 in this document. |
| 2133 | Qi Wang | 82.27 | 11.21.6.4.8.4 | "The passive TB ranging measurement reporting follows the same rules and procedures for themeasurement reporting for TB ranging described in 11.21.6.4.3.4 (TB ranging Measurement Sounding phase), unless explicitly stated otherwise." For passive TB Ranging sequence (polling, measurement and reporting), it is unclear what PPDU types, BSS\_Color and AID/RSID are used for trigger ranging poll, passive ranging sounding trigger, NDPA and NDPs. | Please clarify and specify the behavors. | Revised. Agree with the commenter in principle, and text clarification is needed. TGbk editor: Please incorporate the proposed text change tagged with 2133 in this document. |
| 2134 | Qi Wang | 83.14 | 11.21.6.4.8.4 | "The RSTA shall send the Primary and Secondary RSTA Broadcast Passive TB Ranging Measurement Report frames, the Primary a SIFS time after receiving the ISTA Passive TB Ranging Measurement Report frames from the ISTA and the Secondary a SIFS following the Primary; seeFigure 11-70 (Passive TB ranging measurement reporting phase)." It is unclear what PPDUs, BSS Color and AID/RSID are used to transmit these Primary and Secondary RSTA Broadcast Passive TB Ranging Measurement Report frames. | Please clarify and specify the behavors. | Revised. Agree with the commenter in principle, and text clarification is needed. TGbk editor: Please incorporate the proposed text change tagged with 2134 in this document. |
| 2106 | Mark RISON | 84.17 | 11.21.6.4.8.4 | "The Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame shall contain the 18 following:19 -- ISTA Passive TB Ranging Measurement Reports: see 9.6.7.52 (Secondary RSTA 20 Broadcast Passive TB Ranging Measurement Report frame format)." -- is this a change to what 9.6.7.52 says the frame shall contain? If so, it's inconsistent. If not, it's useless | Delete the cited text | Revised. TGbk editor: Please incorporate the proposed text change tagged with 2106 in this document. |

**11.21.6.4.3 TB ranging measurement exchange**

**11.21.6.4.3.1 General**

**…**

***TGbk editor: Please change the 11bk\_D2.0 (P37 L26 to P38 L16) as shown below.* (#2060, 2133)**

Within each availability window, an RSTA shall use an AID or Ranging Session ID (RSID) to identify an associated or unassociated ISTA respectively. The AID and RSID assignment shall be nonconflicting and shall have the same size and valid address space (as defined in 9.4.1.8 and 26.17.4). The RSID usage shall follow the same rules as that of AIDs for HE operations. The RSIDs are assigned to unassociated ISTAs during the FTM negotiation; see 11.21.6.3 (FTM procedure negotiation).

NOTE: For an HE PPDU or an EHT PPDU addressed to an unassociated ISTA, the STA\_ID in the preamble of the PPDU, if present, is set to the RSID. (#2060, 2133)

For a Ranging Trigger frame and an NDP Announcement frame transmitted in an HE PPDU or an EHT PPDU, the BSS\_COLOR parameter of the PPDU shall be set the value indicated in the BSS Color Information field of in the Ranging Parameters element transmitted by the RSTA, (#2060, 2133)

For any R2I LMR frame or I2R LMR frame (if negotiated) transmitted between an RSTA and an unassociated ISTA, the BSS\_COLOR parameter of the PPDU shall be set to 0 or the value indicated in the BSS Color Information field of in the Ranging Parameters element transmitted by the RSTA. (#2060, 2133)

An RSTA shall follow the rules defined in 26.5.2 (UL MU Operation) or 35.5.2 (EHT UL MU operation) when transmitting any Trigger frames of variant Location for TB ranging with the following rules, and the following rules also apply to the transmission of a Ranging NDP Announcement frame: (#2060, 2133)

— A Ranging Trigger frame shall be carried in an S-MPDU if the Ranging Trigger frame is carried in a VHT PPDU or, HE PPDU, or EHT PPDU.

— An RSTA shall not transmit a Ranging Trigger frame or a Ranging NDP Announcement frame in a VHT MU PPDU ~~or~~, HE MU PPDU, or EHT MU PPDU that is not an EHT SU transmission.

**11.21.6.4.4 Non-TB ranging measurement exchange**

**…**

***TGbk editor: Please change the 11bk\_D2.0 (P46 L38 to P47 L13) as shown below.* (#2060, 2133)**

**11.21.6.4.4.1 General**

In ~~N~~non-TB ranging, the protocol operates in an ISTA centric scheduling FTM mode; whenever the medium is available, an ISTA may initiate the measurement. The RSTA can only limit the frequency with which the ISTA can initiate measurements, by setting a minimum time interval between subsequent range measurements.

An ISTA shall not transmit a Ranging NDP Announcement frame in a VHT MU PPDU, HE MU PPDU, or EHT MU PPDU that is not an EHT SU transmission.

NOTE: For an HE PPDU or an EHT PPDU addressed to an unassociated ISTA, the STA\_ID in the preamble of the PPDU, if present, is set to the RSID. (#2060, 2133)

For an NDP Announcement frame transmitted in an HE PPDU or an EHT PPDU, the BSS\_COLOR parameter of the PPDU shall be set the value indicated in the BSS Color Information field of in the Ranging Parameters element transmitted by the RSTA, (#2060, 2133)

For any R2I LMR frame or I2R LMR frame (if negotiated) transmitted between an RSTA and an unassociated ISTA, the BSS\_COLOR parameter of the PPDU shall be set to 0 or the value indicated in the BSS Color Information field of in the Ranging Parameters element transmitted by the RSTA. (#2060, 2133)

**11.21.6.4.8 Measurement exchange in passive TB ranging mode**

**11.21.6.4.8.1 General**

***TGbk editor: Please add the new text after P77 L27-28 of 11bk\_D2.0 as shown below.(#2061, 2134)***

The passive TB ranging exchanges shall only occur in an availability window assigned for Passive TB ranging. Within the RSTA assigned availability window for passive ranging, the RSTA and ISTA shall only perform passive TB ranging activities.

***TGbk editor: Please add the new text after P77 L34 of 11bk\_D2.0 as shown below.(#2061, 2134)***

If there is a discontinuity in the clock for the FTM timestamping between two reported TOD timestamps, then the TOD Not Continuous subfield in the Timestamp Error subfield of the Timestamp Measurement Report subfield in the ISTA Passive TB Ranging Measurement Report element shall be set to 1. Otherwise it shall be set to 0.

The Ranging Trigger frame, the NDP Announcement frame, the Primary RSTA Broadcast Passive TB Ranging Measurement report frame and the Secondary RSTA Broadcast Passive TB Ranging Measurement report frame shall be transmitted in a non-HT duplicate PPDU. (#2061, 2134)

***TGbk editor: Please change the 11bk\_D2.0 (P84 L17 to L20) as shown below.(2106)***

The Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame shall contain at least one ~~the~~

~~followin~~g:

~~—~~ ISTA Passive TB Ranging Measurement Report, see 9.6.7.52 (Secondary RSTA Broadcast Passive TB Ranging Measurement Report frame format).

**References**

[1] IEEE P802.11bk™/D2.0, Draft standard for information technology – Telecommunications and information exchange between systems local and metropolitan area networks – Specific requirements Part 11: Wireless LAN medium access control (MAC) and physical layer (PHY) specifications,

Amendment 3: 320MHz positioning