IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Comment Resolution SA Ballot II | | | | |
| Date: 2024-11-11 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Christian Berger | NXP | 350 Holger Way, San Jose, CA |  | [christian.berger@nxp.com](mailto:christian.berger@nxp.com) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes to address the following CIDs I-13, I-16, I-18, I-19, and I-40, changes are relative to Draft P802.11be\_D0.0, Draft P802.11REVme\_D6.0, and Draft P802.11bk D3.0.

Revisions:

1. Add CID I-14

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 TGbk Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbk Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbk Editor: Editing instructions preceded by “TGbk Editor” are instructions to the TGbk editor to modify existing material in the TGbk draft. As a result of adopting the changes, the TGbk editor will execute the instructions rather than copy them to the TGbk Draft.***

**The text preceded by “Discussion” is not part of the adopted changes.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **I-13** | 36.10 | 11.21.6.3.3 | "Upon reception of an IFTMR frame with the Ranging Parameters element including a 320 MHz Ranging subelement, the RSTA shall respond with the value of 8" - I don't see any new actionable behavior here that is not already specified in the previous text. This kind of "double statements" makes it just harder to maintain the document, if it is changed in one place later, but not here. | Remove the cited lines | **Accepted** |
| **I-16** | 46.34 | 11.21.6.4.3.3 | "Perform measurement exchange(s) that solicit(s) an HE TB Ranging NDP or an HE Ranging NDP after all the TB ranging measurement exchanges that solicit(s) an EHT TB Ranging NDP or an EHT Ranging NDP are completed." Since EHT has to be 320 MHz bandwidht and HE has to be < 320 MHz, the ordering is already prescribed by the rules of 10.23.2.8 (Multiple frame transmission in an EDCA TXOP). | There are about 10 lines of text and the only actionable (non-baseline) behavior I see is that the TF soliciting 320 MHz EHT frames should use non-HT duplicate format (sensible). Change to the following: "When a TXOP includes both a TB ranging measurement exchange soliciting 320 MHz EHT frames and a TB ranging measurement exchange soliciting HE frames of less than 320 MHz bandwidth, then the RSTA shall send all Ranging Trigger frames in non-HT duplicate PPDUs. " | **Revised**  TGbk editor, make the changes identified in document  <https://mentor.ieee.org/802.11/dcn/24/11-24-1935-01-00bk-comment-resolution-sa-ballot-ii.docx> |
| **I-18** | 53.11 | 11.21.6.4.4.1 | "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." Since no frame in the Non-TB ranging exchange can be transmitted in an HE MU PPDU, this case need not be mentioned; also since this is not a PHY section, shouldn't the text refer (or maybe it is) to the parameter in the TXVECTOR interface (which is STA\_ID). | Change to "NOTE: For an EHT MU PPDU addressed to an unassociated ISTA, the STA\_ID is set to the RSID." | **Revised**  TGbk editor, make the changes identified in document  <https://mentor.ieee.org/802.11/dcn/24/11-24-1935-01-00bk-comment-resolution-sa-ballot-ii.docx> |
| **I-19** | 40.1 | 11.21.6.4.3.1 | "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" - since this is not a PHY section, shouldn't the text refer (or maybe it is) to the parameter in the TXVECTOR interface (which is STA\_ID). | Change to "NOTE: For an HE MU PPDU or an EHT MU PPDU addressed to an unassociated ISTA, the STA\_ID is set to the RSID" | **Revised**  TGbk editor, make the changes identified in document  <https://mentor.ieee.org/802.11/dcn/24/11-24-1935-01-00bk-comment-resolution-sa-ballot-ii.docx> |
| **I-40** | 100.28 | 36.3.19b.1 | "Only 2x EHT-LTF and 1.6 s GI is supported." "No beamforming is applied; Q is a square identity matrix." - these statements are true, but this is a list of differences between secure LTF and not | Delete | **Accepted** |
| **I-14** | 40.15 | 11.21.6.4.3.1 | "when transmitting any Trigger frames of variant Location for TB ranging" - variant Location? | Change to "when transmitting any Trigger frames of variant Ranging for TB ranging" or "when transmitting any Ranging Trigger frames for TB ranging" | **Revised**  TGbk editor, make the changes identified in document  <https://mentor.ieee.org/802.11/dcn/24/11-24-1935-01-00bk-comment-resolution-sa-ballot-ii.docx> |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1. **11.21.6.4.3.1 General**
2. ***TGbk Editor: Change subclause 11.21.6.4.3.1 as follows (on page 40, 11bk Draft3.0) do as follows:***
3. NOTE: For an HE MU PPDU or an EHT MU PPDU addressed to an unassociated ISTA, the STA\_ID paramter of the PPDU is set to the RSID. (#**2060**, **2133**)
4. For a Ranging Trigger frame or an NDP Announcement frame transmitted in an HE PPDU or an EHT PPDU, the BSS\_COLOR parameter of the PPDU shall be set to the value indicated in the BSS Color Information field of the Ranging Parameters element transmitted by the RSTA, (#2060, 2133)
5. 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 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 Ranging Trigger frames. ~~of variant Location for TB ranging with the following rules~~

Additionally, when transmitting the following frames:

* 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.

An RSTA shall not transmit a Sounding Ranging Trigger frame soliciting an HE TB Ranging NDP or an EHT TB Ranging NDP that uses UL MU-MIMO, i.e., where the same RU is allocated to multiple ISTAs, to any ISTA from which it has not received a TB specific subelement in the Ranging Parameters element with the Full Bandwidth UL MU-MIMO field equal to 1.

**11.21.6.4.3.3 Measurement ~~S~~sounding phase of TB ranging**

1. ***TGbk Editor: Change subclause 11.21.6.4.3.3 as follows (on page 46, 11bk Draft3.0) do as follows:***

The RSTA may schedule some ISTAs that replied during the Polling phase to the first measurement sounding phase instance and other ISTAs to one of possibly multiple extra measurement sounding phase instances~~;~~ (see Figure [11-49](#F11o49) (TB ranging availability window with two instances of polling/sounding/reporting triplets within a single TXOP), and Figure [11-50](#F11o50) (TB ranging availability window with two instances of polling/sounding/reporting triplets in separate TXOPs)). The RSTA shall only schedule measurement sounding resources to an ISTA in a measurement sounding instance, if a valid poll response was received from that ISTA in the corresponding Polling phase instance. This may require an RSTA to poll an ISTA multiple times. This is necessary, for example, if different ISTAs have varying, incompatible *RSTA ~~A~~assigned Max Bandwidth* values or if the RSTA wants to limit the time duration of each range measurement sounding instance. When a TXOP includes both a TB ranging measurement exchange soliciting EHT frames of 320 MHz bandwidth and a TB ranging measurement exchange soliciting HE frames of less than 320 MHz bandwidth, then the RSTA shall send all Ranging Trigger frames in non-HT duplicate PPDUs.

**11.21.6.4.4.1 General**

1. ***TGbk Editor: Change subclause 11.21.6.4.4.1 as follows (on page 53, 11bk Draft3.0) do as follows:***
2. 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.
3. 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.
4. NOTE: For an EHT MU PPDU addressed to an unassociated ISTA, the STA\_ID parameter of the PPDU is set to the RSID. (#**2060**, #**2133**)