IEEE P802.11  
Wireless LANs

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| Comment Resolution SA1 – Various | | | | |
| Date: 2021-11-10 | | | | |
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Abstract

This submission proposes the comment resolution of CIDs 287655, 288271, 288314, 288315, 288291, 288290, 288292; as part of SA1, changes are relative to Draft 4.0.

Revisions:

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

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

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

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

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **287655** | 45.34 | 9.3.1.19 | "The R2I N\_STS and I2R N\_STS subfields indicate the number of space-time streams of the corresponding NDP (see NUM\_STS parameter in 28.2.2 (TXVECTOR and RXVECTOR 35 parameters) (#1610) and is set to the number of space-time streams minus 1." - this field is parsed by the MAC, not sure why we reference a value in a PHY section here | Change to "The R2I N\_STS and I2R N\_STS subfields indicate the number of spatial streams of the corresponding NDP and is set to the number of spatial streams minus 1" | **Accept** |
| **288271** | 150.13 | 11.21.6.4.3.1 | "An RSTA shall not transmit a Sounding Ranging Trigger frame soliciting an HE TB Ranging NDP that uses UL MU-MIMO within an RU that spans the full bandwidth to an ISTA from which it has not received a Ranging Parameters element with the Full Bandwidth UL MU-MIMO subfield of the Ranging Parameters field of the Ranging Parameters element equal to 1." - not clear, plus moved to TB specific subelement | Change to "An RSTA shall not transmit a Sounding Ranging Trigger frame soliciting an HE 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." |  |
| **288314** | 181.19 | 11.21.6.4.6 | "The NUM\_STS is set to the same value as the R2I N\_STS field in the first STA Info field in the preceding Ranging NDP Announcement frame lus 1 when the HE Ranging NDP is transmitted to one ISTA." - lus 1, typo, but also why is this different from the point without secure LTF? | Fix typo, but also make definition the same between secure LTF and otherwise | **Revised** |
| **288315** | 184.6 | 11.21.6.4.6 | "The NUM\_STS parameter is set to the same value as the Number Of Spatial Streams subfield in the SS Allocation field in the User Info field in the preceding Ranging Sounding Trigger frame." - plus 1? | Make definition uniform | **Revised** |
| **288291** | 232.1 | 27.2.2 | "LTF\_REP - Set to the number of repetitions." Doule? | Remove "Set to the number of repetitions." |  |
| **288290** | 231.2 | 27.2.2 | Table 27-1—TXVECTOR and RXVECTOR | Compare to baseline and provide clear editor instructions by using strike-through and underline. |  |
| **288292** | 234.3 | 27.2.3a | "LTF\_KEY"- contains an ltf-key, the context mentioned in the description is not available at the PHY, so the interpretation shouldn't dpend on it, just say, this is an LTF key, use it | Change to "Contains an ltf-key, see 11.21.6.4.5.4 (Secure LTF octet stream generation) used when receiving secure HE-LTFs; see 11.21.6.4.5 (Secure LTF in the TB and non-TB ranging measurement exchange protocol)" |  |
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**11.21.6.4.6 Transmission of a ranging NDP**

TGaz Editor: Change text on page 181 starting at line 9 as follows

* The NUM\_STS parameter is set as follows:
  + In the TB Ranging measurement exchange ([11.21.6.4.3](#H11o21o6o4o3)), set to the same value as the R2I N\_STS subfield in the STA Info field in the preceding Ranging NDP Announcement frame plus 1.
  + In the TB Ranging measurement exchange with Secure LTF ([11.21.6.4.5.2](#H11o21o6o4o5o2)).
    - The NUM\_STS[*p*] is set to the same value as the R2I N\_STS subfield in the STA Info field addressed to the corresponding STA *p* in the preceding Ranging NDP Announcement frame plus 1, when the HE Ranging NDP is transmitted to more than one ISTA.
    - The NUM\_STS is set to the same value as the R2I N\_STS subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1, when the HE Ranging NDP is transmitted to one ISTA.
  + In the Non-TB Ranging measurement exchange ([11.21.6.4.4](#H11o21o6o4o4)) and the Non-TB Ranging measurement exchange with secure LTF ([11.21.6.4.5.3](#H11o21o6o4o5o3)), set to the same value as the R2I N\_STS subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1.
* The LTF\_REP parameter is set as follows:
  + In the TB Ranging measurement exchange ([11.21.6.4.3](#H11o21o6o4o3)), set to the same value as the R2I Rep subfield in the STA Info field in the preceding Ranging NDP Announcement frame plus 1.
  + In the TB Ranging measurement exchange with Secure LTF ([11.21.6.4.5.2](#H11o21o6o4o5o2)): (#**3895**)
    - The LTF\_REP[*p*] is set to the same value as the R2I Rep subfield in the STA Info field addressed to the corresponding STA *p* in the preceding Ranging NDP Announcement frame plus 1, when the HE Ranging NDP is transmitted to more than one ISTA.
    - The LTF\_REP is set to the same value as the R2I Rep subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1, when the HE Ranging NDP is transmitted to one ISTA.
  + In the Non-TB Ranging measurement exchange ([11.21.6.4.4](#H11o21o6o4o4)) and the Non-TB Ranging measurement exchange with Secure LTF ([11.21.6.4.5.3](#H11o21o6o4o5o3)), set to the same value as the R2I Rep subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1.

TGaz Editor: Change text on page 183 starting at line 6 as follows

* The NUM\_STS parameter is set to the same value as the I2R N\_STS subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1.
* The LTF\_REP parameter is set to the same value as the I2R Rep subfield in the STA Info field with AID11 subfield less than 2008 in the preceding Ranging NDP Announcement frame plus 1.

1. Table 27-1—TXVECTOR and RXVECTOR parameters (#3629)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Parameter | | Condition | Value | | TXVECTOR | | | RXVECTOR |
|  | | (…existing fields…) | | | | | | |
| TIME\_OF\_DEPARTURE\_REQUESTED | | Format is HE\_SU | Enumerated type:  True indicates that the MAC entity requests that the PHY entity measures and reports time of departure parameters corresponding to the time when the first frame energy is sent by the transmitting port.  False indicates that the MAC entity requests that the PHY entity neither measures nor reports time of departure parameters. | | O | | | N |
| Format is HE\_ER\_SU, HE\_MU or HE\_TB | Not present | | N | | | N |
| Otherwise | See corresponding entry in Table 21-1(TXVECTOR and RXVECTOR parameters). | |  | | |  |
| RX\_START\_OF\_  FRAME\_OFFSETFRAME\_OFFSET | | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters). | | | | | | |
| LTF\_KEY | | FORMAT is either HE\_SU or HE\_TB and RANGING\_FLAG is 1 and SECURE\_LTF\_FLAG is 1 | Contains an *ltf-key* (See [11.21.6.4.5.4](#H11o21o6o4o5o4) (Secure LTF Octet Stream Generation)) when the secure HE-LTFs are used (see [11.21.6.4.6](#H11o21o6o4o6) (Secure Non-TB and -TB Ranging Measurement Exchange Protocol)). | | O | | | N |
|  | | Otherwise | Not present | | | | | |
| LTF\_IV | | FORMAT is either HE\_SU or HE\_TB and RANGING\_FLAG is 1 and SECURE\_LTF\_FLAG is 1 | Contains the *ltf-iv* (See [11.21.6.4.5.4](#H11o21o6o4o5o4) (Secure LTF Octet Stream Generation)) used to generate the secure HE-LTFs or null otherwise. | | O | | | N |
|  | | Otherwise | Not present | | | | | |
| LTF\_REP | | FORMAT is either HE\_SU or HE\_TB and RANGING\_FLAG is 1 | Set to the number of HE-LTF repetitions. | | O | | | N |
|  | | Otherwise | Not present) | | | | | |
| RANGING\_FLAG | | FORMAT is HE\_SU or HE\_TB | | | Set to 1 when the PPDU is HE Ranging NDP or HE TB Ranging NDP.  Set to 0 otherwise. | | Y | N | | |
| MU |
| Otherwise | | | See corresponding entry in Table 19-1 (RXVECTOR and RXVECTOR parameters) and Table 21-1 (RXVECTOR and RXVECTOR parameters). | | | | | |
| NUM\_USERS | | FORMAT is HE\_SU, RANGING\_FLAG is 1, and SECURE\_LTF\_FLAG is 1 | | | Set to the number of users of an HE Ranging NDP with randomized LTF sequence (#**2359**)  If NUM\_USERS is larger than 1, NUM\_STS, LTF\_REP, and LTF\_KEY will be MU | | O | N | | |
| FORMAT is HE\_SU, HE\_MU, HE\_ER\_SU or HE\_TB | | | Not present.  NOTE-number of users for an HE SU PPDU, HE ER SU PPDU or HE TB PPDU is always 1. The number of users in an RU in an HE MU PPDU is determined by RU\_ALLOCATION and STA\_ID parameters for that RU. | | N | N | | |
| Otherwise | | | See corresponding entry in Table 21-1 (RXVECTOR and RXVECTOR parameters). | | | | | |
| PSDU\_LENGTH | | FORMAT is HE\_SU, HE\_MU, HE\_ER\_SU or HE\_TB | | | Indicates the number of octets in the PSDU in the range of 0 to *aPDUMaxLength* octets (see Table 27-54 (HE PHY characteristics)). A value of 0 indicates an HE sounding NDP, HE Ranging NDP or HE TB Ranging NDP. | | N | Y | | |
| Otherwise | | | See corresponding entry in Table 21-1 (RXVECTOR and RXVECTOR parameters). | | | | | |
| APEP\_LENGTH | | FORMAT is HE\_SU, or HE\_ER\_SU | | | Integer  If 0 and FORMAT is HE\_SU, indicates an HE sounding NDP, HE Ranging NDP or HE TB Ranging NDP.  Otherwise, indicates the number of octets in the range of 1 to *aPDUMaxLength* in the A-MPDU pre-EOF padding (see Table 27-54) that is carried in the PSDU. | | Y | O | | |
| FORMAT is HE\_MU or HE\_TB | | | MU | O | | |
| Otherwise | | | See corresponding entry in Table 21-1 (RXVECTOR and RXVECTOR parameters). | | | | | |