IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 802.11  [LB253 CR for various comments by TGaz]  (relative to P802.11az/D3.0) | | | | |
| Date: 2021-05-12 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | Email |
| Jonathan Segev | Intel Corporation | 2200 Mission College Blvd |  | jonathan.segev@intel.com |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Abstract**

This submission contains proposals to resolve LB#253 CIDs 5203, 5254, 5261, 5294, 5348

5353, 5378, 5381, 5444 ( 9 CIDs total).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 5203 | 158.3 | 11.21.6.4.4.3 | Figure 11-37l--Non-TB Ranging with delayed reporting (#TC1208r1) - make formating as close to Figure 11-37k--Non-TB Ranging with immediate reporting as possible | One figure uses R2I/I2R LMR, the other doesn't, one uses Phase 1, while the other 1st instance | **Revise**.  TGaz editor: in figure 11-37k change ‘phase’ to ‘instance’, i.e. 1st instance and 2nd instance and change LMR 1 and LMR 2 to R2I LMR 1 and R2I LMR 2 respectively. |
| 5254 | 47.17 | 9.3.1.22.10 | Change the name of the 'Sounding Dialog Token Number' subfield in the 'Trigger Dependent Common Info subfield of Ranging Trigger frame of subvariant Passive TB Measurement Exchange' field to 'Sounding Dialog Token' to better reflect what this field contains. | As per comment. | **Reject**.  In 802.11ax the terminology of Sounding Dialog Token Number is quite common for the control frames signaling the sounding mechanism e.g. the VHT NDPA the Dialog Token field has a Sounding Dialog Token Number subfield, the HE MIMO Control field includes a Sounding Dialog Token Number field. As 11az expands on the 11ax sounding mechanism (NDPA) the value of changing a name is limited. |
| 5261 | P.22 | 4.3.19.19 | misplaced discussion of Pre-association Security Negotiation protocol | Move this paragraph after P23L16 after having discussed what an FTM session is and what measurement exchanges are. | **Accept** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 5294 | 218.6 | 26.17.2.1 | The paragraph to be inserted in clause 26.17.2.1 should not be inserted after the first paragraph. It would be better placed following the last paragraph in the clause. | Change the editorial directions to be: "Insert the following at the end of 26.17.2.1" | **Accept**.  **Discussion**:  The 11az paragraph is self contained thus may come at any part of 26.17.2.1.  26.17.2.1 contains the basics of 6GHz operation, somewhere in middle of the section (not the first paragraph) non use of VHT and HT frame formats is mentioned. There is no value in bring EDCA FTM operation prior to that anyway and seems best putting it at the end of the section. |
| 5348 | 98.12 | 9.6.7.33 | The statements on the LOS Likelihood element seem contradictory in the 3rd paragraph at the top of page 98.  The first sentence says the element may be present. the last sentence says 'It' contains the LOS Likelihood element.  The last sentence may be a remnant of a previous version? If so, consider deleting it to avoid confusion. | Delete "It contains the LOS Likelihood element." | **Accept**.  Discussion: looks like a typo, the :LOS Likelihood element does not include a LOS Likelihood element, there is no recursion here. |
| 5353 | 20.19 | 3.2 | Several definitions are not definitions, but are acronym expansions. | Delete "FTM frame" definition. Delete "FTMR frame" definition, and add FTMR to 3.4. Delete "I2R LMR frame" and "R2I LMR frame" definitions. | **Accept**.  Discussion:  FTM and FTMR are not showing as acronym and need to be present in the acronym table only (as commenter suggests)  I2R and R2I already in existence as acronym and thus I2R LMR frame and R2I LMR frame need to be deleted. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 5378 | 42.11 | 9.3.1.19 | Since we are using the low order bits of the dialog token to identify various variants, we should codify this in a table. In 11ax, we did something like this for the BlockAck frame -- took a bunch of disparate bits and codified as variant identifier. | Rename B1-B2 as "NDP Type". Create a table a table: Table 9-x--NDP Announcement frame variant encoding NDP Type | NDP Announcement frame variant 0 | VHT 1 | Ranging 2 | HE 3 | Reserved  Follow the conventions established with the BlockAck frame names: NDP Announcement frame is the generic name for any variant. VHT NDP Announcement frame is the name for the VHT Announcement variant, etc. | Revise.  Agree with the commenter that for ease of the readers and future amendment to identify available value use of a new NDP Type field makes sense.  TGaz editor make changes as depicted in  <https://mentor.ieee.org/802.11/dcn/21/11-21-0835-02-00az-tgaz-LB253-Group-CR.docx> below. |

Discussion:

The commenter is correct, the P802.11ax project conducted similar subfield aggregation into a single new field as part of modification to BlockACK (Multi STA BlockACK).

There is no technical change to formatting of any 11az or 11ax frames and this allows later amendments to easily identify available unused values.

**Resolution**:

**TGaz editor make the following changes in relation to P802.11az D3.0:**

***Change the header of 9.3.1.19 as follows:***

9.3.1.19 VHT/HE/Ranging NDP Announcement frame format

***Change the following paragraph as follows:***

The VHT/HE/Ranging NDP [#**1732**, #**1767**]Announcement frame has ~~two~~ three variants, the VHT NDP Announcement frame, the HE NDP Announcement frame and the Ranging NDP Announcement frame. The ~~two~~ three formats are distinguished by the setting of the NDP Announcement Type subfield in the Sounding Dialog Token field.

Change Figure 9-59 as follows:



|  |  |  |  |
| --- | --- | --- | --- |
|  | B0 | B1 | B2          B7 |
|  | NDP Announcement Type | | Sounding Dialog Token Number |
| Bits: | 1 | 1 | 6 |

Figure 9-59—Sounding Dialog Token field format

***Change the following paragraph after figure 9.59:***

The setting of the NDP Announcement Type field in the Sounding Dialog Token field identifies the variant of the NDP Announcement frame, refer to table 9-28d NDP Announcement frame variant encoding.

Table 9-28d - NDP Announcement frame variant encoding

|  |  |  |
| --- | --- | --- |
| NDP Announcement Type subfield | | NDP Announcement frame variant |
| B1 | B0 |
| 0 | 0 | VHT NDP Announcement frame |
| 0 | 1 | Ranging NDP Announcement frame |
| 1 | 0 | HE NDP Announcement frame |
| 1 | 1 | Reserved |

Delete the second paragraph after Fig 9-61a

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 5381 | 20.19 | 3.2 | It is silly to provide an abbreviation for a name. Just use the abbreviation as the name. A definition defines a technical term; it does not expand an abbreviation (that is done in 3.4). | Remove "definitions" at 20.19, 20.21, 20.24. Globally replace "Fine Timing Measurement frame" with "FTM frame". If you like, in the format description in clause 9 describe the origin of the name (e.g. NOTE--The FTM frame was referred to as Fine Timing Measurement frame in a previous revision of the standard." Similarly for the other abbreviated frame names. | Reject.  The name source for FTM is the Timing Measurement process that was developed as part of 802.11v. Giving an acronym to a name allows a concise description of the procedure process it source and way of achieving the service.  This is a well known practice throughout the 802.11 standard refer to TSPEC, PFS and many other noun names. |
| 5444 | 75.9 | 9.4.2.298 | "The Ranging Priority subfield of the Ranging Parameters field of the Ranging Parameters element  in the IFTMR frame contains the ISTA's ranging priority request which indicates the time  sensitivity of a ranging operation, and it is set according to Table 9-280c (Definition of the EDMG  Ranging Priority subfield when included in the IFTMR frame). (#3904)" the text on Ranging Priority subfield for IFTMR and IFTM is separated by the text on Immediate R2I Feedback subfield and immediate I2R Feedback subfield. | Please move text L25-32 on page 75 to right after the text L12 on the same page. | Agree in principle with the commenter.  TGaz editor make changes as depicted in  <https://mentor.ieee.org/802.11/dcn/21/11-21-0835-00-00az-tgaz-LB253-Group-CR.docx> below. |

**Resolution:**

TGaz Editor change the P802.11az D3.0 P.75 as follows:

TGaz Editor change the P802.11az D3.0 P.75 as follows:

The Max R2I Repetition subfield indicates the maximum number of LTF repetitions that the RSTA uses in the preamble of R2I NDP. The values of 0 to 7 contained in the Max I2R Rep and Max R2I Rep subfield are mapped to 1 to 8 repetitions in the N\_REP parameter respectively; see [9.3.1.19](#H09o3o1o19) (VHT/HE/Ranging NDP Announcement frame format).

The Ranging Priority subfield of the Ranging Parameters field of the Ranging Parameters element in the IFTMR frame contains the ISTA’s ranging priority request which indicates the time sensitivity of a ranging operation, and it is set according to Table [9-280c](#T09o280c) (Definition of the EDMG Ranging Priority subfield when included in the IFTMR frame). (#**3904**)

For TB Ranging, the Ranging Priority subfield of the Ranging Parameters field of the Ranging Parameters element in the initial Fine Timing Measurement frame contains the RSTA’s ranging priority response which indicates whether the RSTA accommodates the ranging priority request of the ISTA, and it is set according to Table [9-280d](#T09o280d) (Definition of the EDMG Ranging Priority subfield when included in the initial Fine Timing Measurement frame) in [9.4.2.167](#H09o4o2o167) (Fine Timing Measurement Parameters element). (#**3904**)

For Non-TB Ranging, the Ranging Priority subfield of the Ranging Parameters field of the Ranging Parameters element in the initial Fine Timing Measurement frame is reserved.

The Immediate R2I Feedback and Immediate I2R Feedback subfields indicate if the measurement results from the current measurement exchange are reported immediately by setting it to 1 (from the current measurement) or delayed by setting it to 0 (from the previous measurement) in the R2I and I2R Location Measurement Report (LMR) respectively. (#**3440**)

The Immediate R2I Feedback subfield is reserved in the IFTMR frame. In the initial Fine Timing Measurement frame the Immediate R2I Feedback field is set to 1 to indicate that the R2I LMR will be immediate feedback and to zero to indicate delayed feedback.

The Immediate I2R Feedback field in the IFTMR frame is set to 1 to indicate immediate feedback in the I2R LMR and is set to 0 to indicate delayed feedback. In the initial Fine Timing Measurement frame the Immediate I2R Feedback field is set to the same value as in the IFTMR frame**.** (#**1470,** #**1585**, #**2276**, #**1654**, #**1220**, #**2431**, #**1586**)

The Device Class and Full Bandwidth UL MU-MIMO subfields correspond to the Device Class and Full Bandwidth UL MU-MIMO fields (#**3490**) defined in Table 9-321b (Subfields of the HE PHY Capabilities Information field). For associated STAs the value of the Device Class and Full Bandwidth UL MU-MIMO subfields are equal to the value of the Device Class and Full Bandwidth UL MU-MIMO fields respectively that are exchanged during association. (#**1103**).