IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 802.11  [TGaz SA1 Group CR Part 5]  (relative to P802.11az/D4.1) | | | | |
| Date: 2022-03-09 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | Email |
| Jonathan Segev | Intel Corporation | 2200 Mission College Blvd |  | jonathan.segev@intel.com |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Abstract**

This submission contains resolutions for CIDs 7123, 7131, 7134, 7138, 7139, 7162, 7172, 7177, 7181, 7182, 7185, 7186, 7187, 7195, 7196 (15 CIDs total).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 7123 | 237.1 | 27.3.18a.1 | Does LTF\_OFFSET[1] have to be 0? Or is it sufficient for one LTF\_OFFSET[u] (u = 1 ~ NUM\_USERS) to be 0? Or is it allowed to have none of LTF\_OFFSET[u] to be 0? Note that this question came to my mind when reading "first user" at P238L24. I.e., is "first user" defined? | Clarify the requirement for LTF\_OFFSET (which 'user' need to have offset 0, if any). Also, may want to define what a "first user" is (e.g. at P238L24). | **Reject**.  The intend of the LTF\_OFFSET is to provide symbol offset reference to individual receivers (seperated from strasnit stream offset), in each of those fields the user is expected to receive streams from the first and on, in the secure case its expected to receive all streams, there are no zero power gaps spaning over one or more symbols. |
| 7131 | 240.24 | 27.3.18a.3.1 | It is very hard to read Equation (27-126a). | At P20 between L9 and L10, add "1.5 Terminology for mathematical, logical, and bit operations [Begin italics] Insert the following paragraph at the end of this subclause [End italics] [Begin italics] a:b:c [end italics] is a regularly spaced numeric vector with values from a to c, in increments of b. NOTE - For example, 5:2:9 is equal to [5, 7, 9]." At P240L24, replace Equation (27-126a) with "NZ\_20MHz = { -122:2:-2, 2:2:122 } (27-126a)" At P241L18, replace Equation (27-126b) with "NZ\_40MHz = { -244:2:-4, 4:4:244 } (27-126b)" At P242L22, replace Equation (27-126c) with "NZ\_80MHz = { -500:2:-4, 4:4:500 } (27-126c)" | **Reject**. The format of eq. 27-126a is no different and likely much simpler than that of 11ax 27-50, 27-49, 27-48, 27-47, 27-46, 27-45, 27-44 and many many other 11ax , 11ac and prior revisions. A new methodology for identifying indices and their respective values is possible but maybe more of a confusion as it will not be consistent with the rest of the the 11ax PHY style. |
| 7134 | 241.4 | 27.3.18a.3.1 | "All entries ... other than the nonzero entries shall be set to 0". An entry other than the nonzero entry is by definition zero. Hence, setting them again to 0 seems to be a circular definition. | At P241L4, change "other than the nonzero entries shall be set to 0." to "other than the entries with indices defined in Equation (27-126a) shall be set to 0." At P242L7, change "other than the nonzero entries shall be set to 0." to "other than the entries with indices defined in Equation (27-126b) shall be set to 0." At P243L12, change "other than the nonzero entries shall be set to 0." to "other than the entries with indices defined in Equation (27-126c) shall be set to 0." | **Revise**. Looking for some good wordsmithing. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 7138 | 246.29 | 27.3.18a.4 | "11az secure LTF" is not a proper name. | Change "11az secure LTF" to "secure HE-LTF". | **Accept**.  Discussion: there are 283 occurrences of secure LTF and a single occurrence of 11az secure LTF. |
| 7139 | 247.6 | 27.3.18a.4 | 27.3.11 does not address HE (TB) Ranging NDP. | Delete "and 27.3.11" | **Revised**. This is a duplicate of 7085 from same commenter. Changes were made to fix reference 27.3.10 (mathematical description of signals), and delete reference to 27.3.11 .  TGaz editor no further action needed beyond incorporation of resolution for CID 7085. |
| 7146 | 249.9 | 27.3.18f | Does HE (TB) NDP ranging support 80+80 MHz? I assume not as 27.3.18a.4 does not describe secure HE-LTF sequence for 80+80 MHz. | Delete "or CBW80+80" | Ask for volunteer original text came from Bin and Steve Shellhammer. |
| 7162 | 68.11 | 9.4.2.167 | "RSTA to ISTA angle" should be "ISTA to RSTA" as otherwise it is the same as the paragraph above. The intention is that it is a transmission from the ISTA to the RSTA | replace "RSTA to ISTA" with "ISTA to RSTA" | **Accept**  Discussion: the I2R AOA Request should result in ISTA to RSTA AOA measurement. |
| 7172 | 147.27 | 11.21.6.4.2.1.6 | "due to rules b and c" - it is actually rules c and d that deal with FTM frame after retransmission. | replace "due to rules b and c" with "due to rules c and d" | **Accept.** |
| 7177 | 256.11 | 28.9.3.6 | "-π/2" - I believe that this should be "π/2" | delete the "-" before the "π" | **Revise**. D4.0 P.256L.11 does not have -Pi/2, so the original comment intent may not be captured correctly. However P256L.14 does refer to pi/2 BPSK modulation but this is not an equation but a mapping 384 \* Ncb where Pi/2-BPSK is the reference to the modulation type (Pi/2-BPSK vs. Pi/2-QPSK).  TGaz Editor remove '-' prior to 'Pi/2-BPSK' in P.261L.14 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 7181 | 260.1 | B.4.4.1 | In the Status Column entry "FT 67" in the MAC frames table reads: "CFRSTA:M (CFTB OR CFNTB OR CF):M" Either the last "OR CF" should be removed or completed to denote a valid element of B4.3 IUT configuration. | Hence, please remove "OR CF" from the Status Column. | **Revise**. Agree with observation by the commenter.  This is a duplicate of 7195. TGaz editor change D4.1 P.265 FT67 Support coloum to read: "CFRSTA:M (CFTB OR CFNTB OR CFPTB):M |
| 7182 | 262.1 | B.4.4.1 | The Status Column of "FR 72" and "FR 73" reads: "(CFISTA AND CFPTB):M CFPSTA:M" In the IUT configuration Table "CFPLISTA", "CFPLRSTA", and "CFPLPSTA" are defined, but no "CFPSTA". | Hence, please replace "CFPSTA" with "CFPLPSTA". | **Revise**. FR73 also includes a reference to the CFPSTA. This is a duplication of 7196 TGaz editor in the Status column of FR 72 and FR 73 replace CFPSTA with CFPLSTA. |
| 7185 | 55.10 | 9.4.1.9 | The status codes for invalid pub key seems to require assignment. | Assign an ANA value to invalid public key | **Revise**. Agree with commenter. TGaz editor replace D4.1 P.55 L.16 "ANA-invalid-pub-key" with "136". |
| 7186 | 55.10 | 9.4.1.9 | PASN Base AKM failure seems to be missing an ANA number assignment | Assign an ANA value to PASN BASE AKM Failed status code | **Revise**. Agree with commenter. TGaz editor replace D4.1 P.55 L.16 "ANA-pasn-base-akmp-failure" with "137". |
| 7187 | 51.15 | 9.4.1.9 | Missing OCI status code is missing an ANA number assignment. | Assign an ANA value to missing OCI status code | **Revise**. Agree with commenter. TGaz editor replace D4.1 P.55 L.21 "ANA-missing-oci" with "138". |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
| 7195 | 260.1 | B.4.4.1 | In the Status Column entry "FT 67" in the MAC frames table reads: "CFRSTA:M (CFTB OR CFNTB OR CF):M" Either the last "OR CF" should be removed or completed to denote a valid element of B4.3 IUT configuration. Hence, remove "OR CF" from the Status Column. | as in comment | **Revise**. Agree with observation by the commenter.  This is a duplicate of 7181.  TGaz editor change D4.1 P.265 FT67 Support coloum to read: "CFRSTA:M (CFTB OR CFNTB OR CFPTB):M |
| 7196 | 262.1 | B.4.4.1 | The Status Column of "FR 72" and "FR 73" reads: "(CFISTA AND CFPTB):M CFPSTA:M" In the IUT configuration Table "CFPLISTA", "CFPLRSTA", and "CFPLPSTA" are defined, but no "CFPSTA". Hence, replace "CFPSTA" with "CFPLPSTA". | as in comment | **Revise**. FR73 also includes a reference to the CFPSTA. This is a duplication of 7182. Resolution: TGaz editor in the Status column of FR 72 and FR 73 replace CFPSTA with CFPLSTA. |
| 7191 | 51.22 | 9.3.1.22.10.3 | "The I2R Rep subfield signals the number of repetitions N\_REP of the HE LTF symbols in the corresponding HE TB Ranging NDP". First N\_REP should be replaced by N\_LTF\_REP, e.g. see paragraph before this subclause. Second, the number of repetitions is "N\_LTF\_REP-1" see paragraph on P132L14. | as in comment. Note response to 6033 from LB255 | Revise. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page/**  **Line** | **Clause** | **Comment** | **Proposed change** | **Resolution** |
|  |  |  |  |  |  |