IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CR for PHY Related Topics | | | | |
| Date: 2018-11-12 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Debashis Dash | Quantenna Communications | 1704 Automation Pkwy, San Jose CA 95131 |  | ddash@quantenna.com |
| Imran Latif |  | ilatif@quantenna.com |
| Sigurd Schelstraete |  | sschelstraete@quantenna.com |
| Huizhao Wang |  | hwang@quantenna.com |
| Ambroise Popper |  | apopper@quantenna.com |

Abstract

This submission addresses the following CIDs from TGaz CC28 and based on TGaz draft 0.5:

CID 33, 34, 35, 104, 286, 287, 288, 289, 291, 293 and 489 (12 CIDs).

All the CRs are related to the same sub-clause: 11.22.6.1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CID** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 35 | 45 | |  | | --- | | Typo on the word "beamforming" | | |  | | --- | | As per comment | | Accepted.  Now on line 7 page 44, in D0.5. |
| 97 | 45 | |  | | --- | | "For DMG and EDMG, an FTM session shall be preceded by a First Path Beamforming Training 16 as described in 10.39.9.6 First Path Beamgorming Training" - First path beamforming is not available to DMG due to lack of relevat header fields. It should not be mandatory for EDMG either. | | |  | | --- | | Replace this text with " FOR EDMG, an FTM session may be preceded by a First Path Beamforming training as described in 10.39.9.6 First Path Beamforming Training. | | Revised.  Use the proposed change and update the section number to 10.43.9.6 in [802.11ay D2.0].  Moved to page 44 in D0.5, but duplicate entry still exists at the end of the sub-clause. The top duplication can be removed. |
| 286 | 44 | |  | | --- | | Should use lowercase after colon | | |  | | --- | | As it says in the comment (also on next page) | | Accepted.  Use lowercase after colon for (a) and (c). The colon in D0.5 for (e) has been replaced by a comma. It should be put back to a colon. |
| 289 | 45 | |  | | --- | | The z in DMGz/EDMGz/VHTz/HEz should be lowercase | | |  | | --- | | As it says in the comment | | Accepted.  Already fixed in 0.5. |
| 291 | 45 | |  | | --- | | "First Path Beamforming Training" -- is this a frame? If so, append "frame", else lowercase | | |  | | --- | | As it says in the comment | | Accepted.  Convert to lowercase. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 33 | 44 | |  | | --- | | Since we have used the abbreviation NDP in text prior to this section, does it make sense to replace Null Data Packet to NDP in this paragraph? | | |  | | --- | | As per comment | | Accepted.  Replace Null Data Packet with NDP. |
| 287 | 44 | |  | | --- | | "Null Data Packet" should be abbreviated to NDP, and things that are frames should have "frame" at the end (maybe special case for report, but maybe in that case it needs to be lowercase "report"). NDPA on the other hand should not be so abbreviated | | |  | | --- | | As it says in the comment (also on next page) | | Revised.  NDP abbreviated. Adding frame to all would make it superfluous for NDP and make the sentences wordy without adding clarity. [Check with style guide]. NDPA should be replaced with NDP Announcement. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 34 | 45 | |  | | --- | | Modify the entire paragraph (c) as such "HEz Ranging: Multiuser exchange of downlink poll, multiuser uplink poll response, downlink sounding trigger, multiuser uplink NDP, multiuser downlink NDPA, downlink NDP and downlink Location Measurement Report to multiple ISTAs" | | |  | | --- | | As per comment | | Revised.  Now on page 44, in D0.5. Suggest to not use sounding and merge with CID 489. |
| 104 | 45 | |  | | --- | | HEz ranging also consists of an optional Uplink LMR sent from ISTA to RSTA. | | |  | | --- | | Change the line to "Multiuser exchange of downlink poll, multiuser uplink poll response, downlink trigger, multiuser uplink NDPA, multiuser uplink NDP, downlink NDP, downlink Location Measurement Report to multiple STAs and optionally another downlink Trigger and uplink Location Measurement Report to RSTA. | | Revised.  Now on page 44, in D0.5. Need to combine with the resolution of CIDs 34. |
| 489 | 45 | |  | | --- | | Sequence is incorrect | | |  | | --- | | Change to downlink trigger, multiuser UL NDP, downlink NDPA, downlink NDP | | Revised.  Similar to CID34. |

**Proposed Changes**

TGaz Editor: please modify the following sentence in section 11.22.6.1, line 33 on page 44 in D0.5.

TB Ranging: a sequence of TBR poll subvariant [9.3.1.23.9.1], uplink poll responses, TBR sounding subvariant [9.3.1.23.9.2], uplink NDPs, downlink NDP Announcement, downlink NDP and downlink LMR and optionally TBR report subvariant [9.3.1.23.9.4] followed by uplink LMRs. x

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 288 | 44 | |  | | --- | | Having stated that scheduling can be RSTA- or ISTA-centric, it would be helpful to indicate which of the measurement exchange types are RSTA- or ISTA- or support both | | |  | | --- | | As it says in the comment | | Accepted. |

**Proposed Changes**

TGaz Editor: please add the following sentence to section 11.22.6.1 after line 27 on page 44 in D0.5.

RSTA centric scheduling is supported by legacy FTM, TB, DMGz and EDMGz ranging. ISTA centric scheduling is supported by non-TB ranging.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 293 | 44 | |  | | --- | | Why is it "FTM Measurement Exchange" but "$blah Ranging" for all the others? | | |  | | --- | | Clarify | | Revised.  FTM measurement exchange occurs in RevMD. TB and non-TB ranging are new sequences. |

**Discussion**

Currently D0.5 is using TB/non-TB sounding/ranging/mode/protocol. Suggestion is to remove the use of mode and protocol and replace it with TB/non-TB ranging exchange. This nomenclature is in line with FTM measurement exchange.

**Additional editorial comments**

1. In D0.5, lines 28 and 29 on page 44 are duplicates. One of them can be removed.
2. The last paragraph of sub-clause 11.22.6.1 is same as its fourth paragraph. The second occurance can be removed.
3. Initiating STA and responding STA occur first time in line 11 of page 44. The abbreviation in parenthesis can be moved from lines 16 and 18 respectively and the corresponding abbreviations can be used in lines 16 and 18.