IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB240 Clause 11 PXDMG CIDs | | | | |
| Date: 2019-08-12 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Assaf Kasher | Qualcomm |  |  | akasher@qti.qualcomm.com |
|  |  |  |  |  |

Abstract

This document proposes resolutions to LB240 CIDs: 1270, 2344, 1083, 1079, 2021, 2011, 1861, 2380, 1280, 1239, 1080, 1240, 1432, 2379, 1434, 1437, 1435, 2352, 2351

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1270 | 119.05 | 11.24.6.4.7 | "For DMG and EDMG, an FTM session shall be preceded by a first path beamforming training as described in 10.39.9.6 First Path Beamforming Training.": this text is wrong. DMG devices cannot do first path BF. Not all DMG devices can do BF. It also repeats the text in 11.22.6.1. It is also an orphan | remove the pargraph in line 5-6 | **Accept, performed as part of 11-19-1074r2** |
| 2344 | 119.05 | 11.24.6.4.7 | A DMG device can't do first path beamforming as it is a EDMG feature. Consequently, first path beamforming training can't preceed a DMG FTM measurement. | Either remove this sentence or add "if supported". | **Revise, as in 11-19-1074r2** |
| 1083 | 119.05 | 11.24.6.4.7 | The statement "For DMG and EDMG, an FTM session shall be preceded by a first path beamforming training as described in 10.39.9.6 First Path Beamforming Training." in 11.24.6.4.7 is incorrect! FPBT is stated to be for EDMG only "An EDMG STA shall not initiate first path beamforming training FPBT with a peer EDMG STA that is not capable of performing first path beamforming capable FPBT procedure." in 10.43.9.6. | Fix the text | **Revise, as in 11-19-1074r2** |
| 1079 | 79.21 | 11.22.6.1 | The section "For EDMG STAs that have set to 1 the First Path Training Supported field in the Beamforming Capability subelement, an FTM session shall be preceded by a First Path Beamforming Training as described in 10.39.9.6 First Path Beamforming Training." in 11.22.6.1 is incorrect, FPBT depends on both STAs capability. See "An EDMG STA shall not initiate first path beamforming training FPBT with a peer EDMG STA that is not capable of performing first path beamforming capable FPBT procedure." in 10.43.9.6 | Fix the text | **Revise, as in 11-19-1074r2** |

Discussion:

These CIDs were resolved by the actions proposed in 11-19-1074

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2021 | 3.00 | 3.1 | [Re-raising this comment from the comment collection, as it is not possible to determine from 18/1544r8 whether/how it was addressed. References are to the CC draft and hence may be wrong against D1.0.] Definitions for VHTz and HEz are missing | Add missing definitions | **Revise: Resolved in D1.2** |

Discussion:

VHz and HEz are no longer used in the draft. TB and non-TB ranging are used instead. TB and non-TB are defined in the acronym section and in **11.22.6.1.2**  and **11.22.6.1.1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2011 | 3.14 | 3.1 | [Re-raising this comment from the comment collection, as it is not possible to determine from 18/1544r8 whether/how it was addressed. References are to the CC draft and hence may be wrong against D1.0.] Abbreviations should be in 3.4 not 3.1; 3.1 is for definitions | Move the "SAC" line to 3.3 | **Revise: agree in principle, already implemented in D1.2** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1861 | 84.19 | 01.43.9.6 | What is the criteria for a peer EDMG STA not being capable of FPBT procedure? | Provide a meaningful criteria for a EDMG STA not initiating a FPBT. | **Revise: Already resolved in D1.2 as part of CID2446** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2380 | 91.00 | 11.22.6.3.5 | The below statement in 11.22.6.3.5 is correct and shall be applied to non-secure ToF measurement too for EMDG. However, I cannot find any text that described this for non-secure ToF case throughtout the spec   11.22.6.3.5 EDMG Secure ToF Measurement Setup A STA that supports secure ToF measurement as described in 11.22.6.4.8 (Secure EDMG Measurement Exchange Protocol), shall set the Secure ToF Supported field in the EDMG capabilities element to 1. A STA shall not set the Secure ToF Supported field to 1 if it has not 33 also set the First Path Training Supported field to 1. , | Add the same requirement for EDMG ToF Measurement Setup in which An EDMG STA shall set the First Path Training Supported field to 1. | **Reject, it was agreed in 11-19-1074r2 it is an optional behaviour for non secure mode and mandatory behaviour for secure mode.** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1280 | 121.27 | 11.22.6.4.8 | "dot11LOSassessmentTXcapable", dot11LOSassessmentRXcapable - These MIB variables are not defined | define those MIB variables in annex C | **Revise: agree in principle** |

***TGaz Editor: Throught the document replace*** dot11LOSassessmentTXcapable **with** dot11LOSassessmentTXimplemented

***TGaz Editor: Throught the document replace*** dot11LOSassessmentRXcapable **with** dot11LOSassessmentRXimplemented

***TGaz Editor: Modify the lastline of*** Dot11WirelessMgmtOptionsEntry ***(P183L9):***

dot11LOSassessmentTXimplemented,

dot11LOSassessmentRXimplemented

***TGaz Editor: add the following lines to*** dot11TriggerBasedRangingImplemented ***(p185L20), adding a comma to the privous line:***

dot11LOSassessmentTXimplemented,

dot11LOSassessmentRXimplemented

***TGaz Editor: Add the following at P185L6 (before*** dot11TriggerBasedRangingImplemented)

dot11LOSassessmentTXimplemented OBJECT-TYPE (#1280)

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity or the SME.

Changes take effect at the next occurrence of an MLME-START.request or MLME-JOIN.request primitive.

This attribute, when true, indicates that the station capability for participation in LOS assessment FTM exchange by transmitting a Loss Assessment PPDU. It is set to false otherwise."

DEFVAL { false}

::= { dot11WirelessMgmtOptionsEntry <ANA> }

dot11LOSassessmentRXimplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable.

It is written by an external management entity or the SME.

Changes take effect at the next occurrence of an MLME-START.request or MLME-JOIN.request primitive.

This attribute, when true, indicates that the station capability for participation in LOS assessment FTM exchange by switching polarization on the TRN field when a Loss Assessment PPDU is received. It is set to false otherwise."

DEFVAL { false}

::= { dot11WirelessMgmtOptionsEntry <ANA> }

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1239 | 79.22 | 11.22.6.1 | "shall be preceded by a First Path Beamforming Training" - implies immidiately preceding? | replace "shall be preceded by a First Path Beamforming Training" with shall be preceded | Revised, refer to resolution to 11-19-1422 |
| 1080 | 79.25 | 11.22.6.1 | The section "For DMG and EDMG, an FTM session shall be preceded by a first path beamforming training as described in 10.39.9.6 First Path Beamforming Training." in 11.22.6.1 is incorrect, FPBT is stated to be for EDMG only "An EDMG STA shall not initiate first path beamforming training FPBT with a peer EDMG STA that is not capable of performing first path beamforming capable FPBT procedure." in 10.43.9.6. Which one is correct ????? | Fix the text | Revise, refer to resolution to 11-19-1422 |
| 1240 | 79.25 | 11.22.6.1 | "For DMG and EDMG, an FTM session shall be preceded..." This pargraph shall be remvoed as it contradicts the previous pargraph. DMG devices cannot perform first path beamforming training | remove this paragraph. | Accept |
| 1432 | 79.00 | 11.22.6.1 | "For DMG and EDMG, an FTM session shall be preceded by a first path beamforming training as described in 10.39.9.6 First Path Beamforming Training." First path beamforming is only specified for EDMG, and can only be perfomerd if EDMG Capabilities allow. | Describe the correct behaviour. | Revise (accept in principle) refer to resolution to 11-19-1422 |
| 2379 | 79.00 | 11.22.6.1 | "For EDMG STAs that have set to 1 the First Path Training Supported field in the Beamforming Capability subelement, an FTM session shall be preceded by a First Path Beamforming Training as described in 10.39.9.6 First Path Beamforming Training." | Remove this sentence as the sentence is redudant and covered in p79 L25-26 | Revised, refer to resolution to 11-19-1422 |

Discussion: Some of these CIDs were resolved in 1074r2, however, the paragraph in 11.22.6.1 was missed. We believe that this text, does not belong in 11.22.6.1, it is covered by text in 11.22.6.4.7

***TGaz Editor: Delete the following text in P83L9-14 (last lines of 11.22.6.1):***

***TGaz Editor: Modify the text in P126L9-12 as follows (first pargraph of 11.22.6.5.7.1)***An PEDMG ISTA and RSTA that have both indicated support for first path beam forming by setting to one the First Path Training Supported field in the Beamforming Capability subelement of the EDMG Capability element, shall perform first path beamforming training as defined in 10.43.10.6 (First path beamforming training) prior to any Fine Timing Measurement exchange. (#2379)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1434 | 82.23 | 11.22.6.2 | There is no reason to limit the directional measurement capabilities to 1. A STA may be able to perform AOA and AOD measurements. | change "set one" to "set at least one" or something more appropriate. | Revise, (agree in principle), refer to 11-19-1422 |
| 1437 | 82.31 | 11.22.6.2 | There is no reason to limit the directional measurement capabilities to 1. A STA may be able to perform AOA and AOD measurements. | change "set one" to "set at least one" or something more appropriate. | Revise, (agree in principle), refer to 11-19-1422 |

***TGaz Editor: Modify the text in P86L21-22 (clause 11.22.6.2) as follows:***

Capabilities element and set at least one of the first 4 subfields (AOA TX Capability, AOA RX Capability, AOD TX Capability, AOD RX Capability) of this field to 1.

***TGaz Editor: Modify the text in P86L28-29 as follows:***

DMG Direction Measurement Capabilities field in the DMG Capabilities element and set at least one of the first 4 subfields (AOA TX Capability, AOA RX Capability, AOD TX

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1435 | 82.26 | 11.22.6.2 | There is no such EDMG OFDM Range Measurement Field. There is an EDMG OFDM Ranging Supported, in Beamforming Capabilities. However there is also an EDMG SC Ranging Supported, so if a conditional statement is formulated then it should include both modes | Write the decription with respect to the EDMG SC and OFDM Ranging Supported. | Revise, refer to 11-9-1422 |

***TGaz Editor: Modify the text in P86L23-25 as follows:***

1. PEDMG Ranging, it shall set the EDMG Range Measurement field of the Extended Capabilities element to 1. It may also set the EDMG OFDM Range Measurement field of the Beamforming Capabilities subelement to 1 if it additionally supports ranging based on EDMG OFDM PPDUs. (#1435)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2352 | 121.36 | 11.22.6.4.8 | Where is the PEDMG Direction Measurement Parameters element defined? | Can't find it. There is a DMG Direction Measurement Parameters subelement. | **Revise, already corrected in D1.2** |
| 2351 | 121.38 | 11.22.6.4.8 | What is the "EDGMz Direction Measurement Parameters element"? | Please clarify. I think it should be DMG. Actually the title suggests that it is for DMG only. | **Revise – 11-19-1422** |

***TGaz Editor: Modify the text in P97L1-4 as follows:***

The ISTA requests the FTM session by setting to one the LOS Assessment field in a DMG Direction Measurement Parameters subelement in the initial Fine Timing Measurement request in the session. The responding RSTA shall set to one the LOS Assessment field in the DMG Direction Measurement Parameters element in the initial Fine Timing Measurement frame in the session.

**References: P802.11az\_Draft\_D1.2**