IEEE P802.11
Wireless LANs

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| LB240 First Path BF CIDs |
| Date: 2019-03-19 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Assaf Kasher | Qualcomm |  |  | akasher@qti.qualcomm.com |
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Abstract

This document proposes resolutions to comments related to First Path BF.

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| 1025 | 77.28 | 28 | 10.43.9 | Missing sentence for MLME and subclause number | Fixed sentence and subclause number 10.39.9.5.2.2.2.911 |

Proposed Resolution: **Revise**

***TGaz Editor: Change the text in P77L28 as follows:***

(#1025) with multiple DMG antennas, as defined in 10.43.10.5.2.2.2.

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| 1420 | 76.00 |  | 10.43.9.6 | "that is not capable of FPBT procedure." | "that is not capable of performing the FBPT procedure" or "that is not FPBT capable" |

Proposed Resolution: **Revise**

***TGaz Editor: Chagne the text in P76L17-19 (10.43.9.6) as follows:***

STA’s EDMG Capabilities element equal to 1 is FPBT (#1420) capable.

An EDMG STA shall not initiate ~~first path beamforming training~~ FPBT with a peer EDMG STA that is (#1420) not FPBT capable~~performing first path beamforming capable~~.

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| 1016 | 76.03 | 3 | 10.43.9.6 | States FPBT shall not be performed in MIMO configuration. This a normative statement the type(s) of MIMO configurations should specified and clarified | As commented: suggested text: "FPBT shall not be performed in any SU-MIMO, MU-MIMO configuration. |

Proposed Resolution: **Reject**

**Discussion:**

The text does not refer to MIMO in general but refers to a specific procedure within the BRP-TXSS. Specifically, it points to the BRP TXSS SISO config 10.43.10.5.2. The MIMO refers to the MIMO part of this procedure.

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| 2446 | 76.06 | 6 | 10.43.9.6 | Correct the instruction. Is the change only to the first para? It seems to be changing at least the first to fourth paras. What happens to the Note?Clarify what is the existing text and show how it should be changed. | As in comment. |

Proposed Resolution: **Revise**

**Discussion:**

The editor instruction is wrong, and probably points to an early version of 11ay.

***TGaz Editor: change the subclause of 10.43.9, 10.43.9.6 to 10.43.10, 10.43.10.6***

***TGaz Editor: change the editor instruction in P76L6 (10.43.9.6) as follows:***

*(#2246) Replace the text in 10.43.10.6 with the following:*

***TGaz Editor: Remove all striked out text in P76L21-35.***

***TGaz Editor: Remove underline from the text in 10.43.10.6***

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| 2448 | 76.12 | 12 | 10.43.9.6 | Delete "and the first path with best quality", as the prior sentence explains what the first path is. | As in comment. |

Proposed Resolution: **Revise**

**Discussion:**

The text speaks of selection of one of several “first paths”. The text can be clarified

***TGaz Editor: Modify the text in P76L10-12:***

first path corresponds to the LOS path. If several AWVs have the same estimated shortest time of flight, the beamforming training shall select (#2448) among them the first path as the one with best quality. The

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| 1418 | 77.01 | 1 | 10.43.9.6 | "FPBT shall be performed in SISO configuration" | Is it better to define this restriction in terms of the value of TXSS-MIMO field within the EDMG BRP Request element? "If the BRP-TXSS field and the TXSS-INITIATOR field are both equal to 1, the TXSS-MIMO field set to 1 25 indicates that the requested BRP TXSS is a MIMO BRP TXSS (see 10.43.10.5) and the TXSS-MIMO field 26 set to 0 indicates that the requested BRP TXSS is a SISO BRP TXSS (see 10.43.10.5)." |
| 1417 | 77.02 | 2 | 10.43.9.6 | Typo/poor presentation: "over a single channel, bonded channel bonding or channel aggregation." | "Over a single, bonded, or aggregated channel"? Given that this is an exhaustive list of all channels defined, is it worth listening all possible channels? |

Proposed Resolution: **Revise**

**Discussion:**

The SISO configuration refers to a specific configuration of the TXSS procedure, there is no need to repeat it here. The bandwidth text can be imporved.

***TGay Editor Modify the text in P77L1-3 (10.43.10.6) as follows:***

FPBT shall be performed in the SISO configuration defined in 10.43.10.5.2.2 SISO BRP TXSS Configuraion with any valid combination of TXVECTOR parameter CH\_BANDWIDTH and CH\_AGGREGATION. (#1417) FPBT shall not be performed in MIMO configuration.

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| 1419 | 77.04 | 4 | 10.43.9.6 | Sentence "All the phases of the BRP-TXSS procedure shall be supported in FPBT. The use of these phases is dependent on the antenna reciprocity and antenna pattern reciprocity properties of the involved EDMG STAs." is a bit misleading given that not all BRP TXSS phases are performed depending on the reciprocity characteristics of both STAs. | Rephrase or possibly delete |

Proposed Resolution: **Revise**

***TGaz Editor: Change the text in P77L4-6 (10.43.10.6) as follows:***

All the phases of the BRP-TXSS procedure shall be supported in FPBT. (#1419) Selection of which phases are used is dependent on the DMG antenna reciprocity and antenna pattern reciprocity properties of the involved EDMG STAs as defined in their DMG STA Capability Information field.

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| 1234 | 77.17 | 17 | 10.43.9.6 | Missing instruction not to use first path AWV for data transmission. | add the following new pargraph after line 17 "The AWV selected by the FPBT shall not be used for data transmission. It shall be used only in FTM procedure as defined in 11.24.6.4.7" |

Proposed Resolution: **Accept**

***TGaz Editor: Add the following text after P77L17 (10.43.10.6):***

(#1234) The AWV selected by the FPBT shall not be used for data transmission. It shall be used only in the FTM procedure defined in 11.24.6.4.7.

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| 1860 | 84.07 | 7 | 10.43.9.6 | Id the FPBT procedure used to determine the best AWV corresponding to the first path as stated in the first paragraph or do the two EDMG STAs already now the best transmit AWV as stated in the second paragraph. These statements do not seem to be compatible with each other. Please resolve or clarify what is being specified. | As in the comment |

Proposed Resolution: **Revise**

***TGaz Editor: Change the text in P77L18 (10.43.10.6) as follows:***

The TRN field of the EDMG BRP-RX packets used for receive training phase (#1860) of the responder

— Shall be transmitted with the best first path AWV identified in the preceding Initiator BRP TXSS phase

— Shall be received with the DMG antenna corresponding to the best first path AWV configuration identified in the preceding Initiator BRP TXSS phase (#1860)

When receive training phase of the initiator is performed, the TRN field of the EDMG BRP-RX packets used in this phase

— Shall be transmitted with the best first path AWV identified in the preceding Responder BRP TXSS phase or in the receive training of the responder, as defined in 10.43.10.5.2.2.2.

— Shall be received with the DMG antenna corresponding to the best first path AWV configuration identified in the Responder BRP TXSS phase or in the Initiator BRP TXSS phase, or with multiple DMG antennas, as defined in 10.43.10.5.2.

**References:**

**[1] Draft P802.11az\_D1.0**

**[2] Draft P802.11ay\_D3.0**

**[3] Draft P802.11REVmd\_D2.1**