IEEE P802.11
Wireless LANs

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| Resolution of BRP TXSS for Channel Aggregation CIDs |
| Date: 2018-04-25 |
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Abstract

This submission proposes resolutions to BRP TXSS for Channel Aggregation CIDs. The text used as reference is D1.1.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1048 | 10.38.9.5 | 184.10 | Specification on the use of BRP TXSS for the CA case is incomplete. | Specification on the use of BRP TXSS for the CA case is incomplete. For instance, AWV settings for the secondary channel and definition of the frame format is missing. Technical contribution may be necessary. |
| 1633 | 10.38.9.2 | 163.10 | When the BF training for channel aggregation using different TX chain is performed in BRP TXSS or SU/MU-MIMO BF, the packet transmitted by secondary channel may not be decodable since SLS is only done in primary channel. | The clarification is needed in BRP TXSS and SU/MU-MIMO BF procedure. |

**Proposed resolution**: Revised

**Modifications:** *Include the following sub-clause to the draft*

**10.39.9.5.2.4 Configuration of BRP TXSS for 2.16+2.16 GHz and 4.32+4.32 GHz channels**

The initiator of a BRP TXSS indicates intent to perform BRP TXSS over a 2.16+2.16 GHz or a 4.32+4.32 GHz channel by sending a BRP frame with setup with the Aggregation Requested field in the DMG Beam Refinement element set to 1 and with TXVECTOR parameter CH\_BANDWIDTH equal to CBW216+216 or CBW432+432. If the responder confirms the procedure by sending a BRP frame with setup with the Aggregation Requested field set to 1 and the value of the TXVECTOR parameter CH\_BANDWIDTH equal to the value of the RXVECTOR parameter CH\_BANDWIDTH of the BRP frame sent by the initiator, all BRP frames sent as part of the BRP TXSS shall have the same TXVECTOR parameter CH\_BANDWIDTH.

BRP frames sent in a BRP TXSS performed in a 2.16+2.16 GHz or a 4.32+4.32 GHz channel shall be sent using the EDMG Control Mode. In this case, as defined in 30.3.3.3.2.2, the total number of transmit chains, $N\_{TX}$, shall be an even number, and the first $N\_{TX}/2$ transmit chains shall be used for transmission on the primary channel and the second $N\_{TX}/2$ transmit chains shall be used for transmission on the secondary channel. Also in this case, in the setup phase, if an implementation has not yet determined AWVs to use in the secondary channel, the AWVs used by the $N\_{TX}/2$ transmit chains used for transmission on the secondary channel is selected in an implementation dependent manner. If a BRP frame sent in a BRP TXSS performed in a 2.16+2.16 GHz or a 4.32+4.32 GHz includes a TRN field, the TRN Aggregation field in its EDMG-Header-A shall be set to 1.

If the TXSS-MIMO field within the EDMG BRP Request element in the BRP frame with setup sent by the initiator is equal to 0, the BRP TXSS shall be configured as described in 10.39.9.5.2.2. If the TXSS-MIMO field is equal to 1, the BRP TXSS shall be configured as described in 10.39.9.5.2.3. In both cases, the values of TXSS-PACKETS and TXSS-REPEAT exchanged during the setup correspond to the number of packets and of repetitions, respectively, in each of the two aggregated channels.

A STA that is part of a BRP TXSS that is performed over a 2.16+2.16 GHz or a 4.32+4.32 GHz channel shall provide feedback for each of the two aggregated channels. BRP frames with feedback in this case shall have the Aggregation Present field within the DMG Beam Refinement element set to 1.

*Modify the third paragraph of 10.39.9.5.3 (BRP TXSS execution) as follows*

To request a BRP TXSS, the initiator sends a BRP frame with the BRP-TXSS field and the TXSS-INITIATOR field within the EDMG BRP Request element both set to one and the TXSS-PACKETS field set to indicate the number of EDMG BRP-TX packets necessary for the initiator to perform transmit training. ~~In case of channel aggregation, the Aggregation Requested field in the DMG Beam Refinement element carried within the BRP frame sent by the initiator should be set to 1.~~ To confirm the BRP TXSS execution, the responder shall respond with a BRP frame MBIFS interval after the reception of the BRP frame sent by the initiator with the BRP-TXSS field within the EDMG BRP Request element set to one, the TXSS-INITIATOR field set to zero, and the TXSS-REPEAT field set to indicate the number of requested repetitions of the EDMG BRP-TX packets sent by the initiator. ~~In case of channel aggregation, the Aggregation Requested field in the DMG Beam Refinement element carried within the BRP frame sent by the responder should be set to 1.~~