IEEE P802.11  
Wireless LANs

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| Text to cover SFD 2.3.5 EDMG Channel Measurement Feedback element | | | | |
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Abstract

Text to cover following sections of SFD

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| --- | --- | --- | --- |
| **Section** | **Page** | **Line** | **Topic** |
| 2.3.5 | 8 | 5 | Channel Measurement Feedback element |
| 2.3.6 |  |  | Channel Measurement Feedback Requset element |

Discussion:

Terminology that should be introduced in some place:

1. Channel Measurement Requestedis an existing subfield in the FBCK-REQ field [2]. So we introduce a new EDMG Channel Measurement Feedback Requestelement in which Number of Combinations Requested field is transmitted.
2. The original passed motion in 2016-TECH-Qualcomm-0278-03 November SC F2F SP and Motions Results1.xlsx is based on SU-MIMO. So we replace MIMO with SU-MIMO.

(Would you agree to insert the following to SFD: "For BRP training of SU-MIMO, the EDMG Channel Measurement Feedback element may include one or multiple best TX AWV configurations as shown in slide 9(2016-TECH-Huawei-0040-02-Beam Tracking for SU MIMO).")

1. The text is lack of the description of the rank of TX sector combinations. So we set the decreasing order by default
   * 1. EDMG Channel Measurement Feedback element

The EDMG Channel Measurement Feedback element is used to carry the channel measurement feedback data that an EDMG STA has measured on the TRN field of the BRP packet that contained the corresponding EDMG Channel Measurement Feedback Request, to provide a list of AWVs per transmit DMG antenna of the peer STA that can be used to establish a beamformed SU-MIMO link.

The EDMG Channel Measurement Feedback element is shown in .

1. EDMG Channel Measurement Feedback element format

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Size | | Meaning |
| Element ID | 8 bits | | Defined in 9.4.2.1 |
| Length | 8 bits | | Defined in 9.4.2.1 |
| Element ID Extension | 8 bits | | Defined in 9.4.2.1 |
| Number of Combinations | 8 bits | | Contains the number of TX sector combinations, N, following this field |
| TX Sector Combination 1 | AWV 1 | 11 bits | Contains the AWV for TX DMG antenna 1 |
| AWV 2 | 11 bits | Contains the AWV for TX DMG antenna 2 |
| … |  |  |
| AWV NTX | 11 bits | Contains the AWV for TX DMG antenna NTX |
| TX Sector Combination 2 | AWV 1 | 11 bits | Contains the AWV for TX DMG antenna 1 |
| AWV 2 | 11 bits | Contains the AWV for TX DMG antenna 2 |
| … |  |  |
| AWV NTX | 11 bits | Contains the AWV for TX DMG antenna NTX |
| … | … | … | … |
| TX Sector Combination N | AWV 1 | 11 bits | Contains the AWV for TX DMG antenna 1 |
| AWV 2 | 11 bits | Contains the AWV for TX DMG antenna 2 |
| … |  |  |
| AWV NTX | 11 bits | Contains the AWV for TX DMG antenna NTX |

Number of Combinations, N, is corresponding to Number of Combinations Requested subfield in the EDMG Channel Measurement Feedback Request. If the Number of Combinations Requested subfield in the EDMG Channel Measurement Feedback Request is larger than 0, TX Sector Combination field is present as part of the EDMG Channel Measurement Feedback element.

TX Sector Combination 1 to N were selected with the N-best quality SU-MIMO link in the immediately preceding BRP phase. The determination of which SU-MIMO link was the N- best quality is implementation dependent.

The TX Sector Combination fields are ranked in the decreasing order of SU-MIMO link quality.

* + 1. EDMG Channel Measurement Feedback Request element

1. EDMG Channel Measurement Feedback Request element format

|  |  |  |
| --- | --- | --- |
| Field | Size | Meaning |
| Element ID | 8 bits | Defined in 9.4.2.1 |
| Length | 8 bits | Defined in 9.4.2.1 |
| Element ID Extension | 8 bits | Defined in 9.4.2.1 |
| Number of Combinations Requested | 8 bits | If set to larger than 0, the TX Sector Combination field is requested as part of the EDMG Channel Measurement Feedback element. Otherwise, set to 0. |

**References:**

1. 11-15-1358-14-00ay-11ay Spec Framework.pdf
2. IEEE P802.11-REVmc/D8.0, Aug 2016