IEEE P802.11
Wireless LANs

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| Resolution of Analog Beam Tracking-related CIDs II |
| Date: 2018-03-02 |
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Abstract

This submission proposes resolutions to analog beam tracking-related CIDs. The text used as reference is D1.0.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1242 |  | 160.07 | "SU or MU MIMO scenarios " -- exactly what is a scenario? It's use here is a bit like my elder aunt who uses the word "thing" when she can't remember the right word. | Define what "scenario" means, or replace it with something like "transmissions", "frame exchange sequences", "PPDUs". |

**Proposed resolution**: Revised

**Modification:** Modify lines 7 and 8 of page 160 as follows:

*Baseband beam tracking ~~in SU or MU MIMO scenarios tracks~~ may be used to track changes in the baseband beamformer only for SU and MU MIMO transmissions that employ ~~in a~~ hybrid beamforming ~~transmission~~.*

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1393 | 30.2.2 | 224.01 | Parameter EDMG\_BEAM\_TRACKING\_REQUEST is only set to 1 for beam tracking procedures, and no other BRP procedure. | Make reference to 10.38.7: "This parameter indicates whether beam tracking (see 10.38.7) is requested." (That is, add" (see 10.38.7)".) |

**Proposed resolution**: Accepted

**Modification**: Modify the value for the parameter EDMG\_BEAM\_TRACKING\_REQUEST in page 224 as follows:

*This parameter indicates whether beam tracking is requested (see 10.38.7).*

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1054 | 30.7 | 370.00 | Original text is not correct in cases (transmit beam tracking, for example). | Replace "It may also not be transmitted if EDMG\_TRN\_LEN > 0 and beam tracking request was initiated (see 30.9)." with "The TRN field is also not transmitted if the Beam Tracking Request field in the L-Header is equal to 0, the Packet Type field in the L-Header is equal to 0, the EDMG Beam Tracking Request field in the EDMG-Header-A is equal to 1, and the EDMG TRN Length field in the EDMG-Header-A is greater than 0." |
| 2099 | 30.7 | 370.02 | Should be EDMG beam tracking request instead of (legacy) beam tracking request | Replace "beam tracking" with "EDMG beam tracking" |

**Proposed resolution**: Revised

**Modification:** Modify lines 1-3 of page 370 as follows:

The TRN field is not transmitted if EDMG\_TRN\_LEN ~~parameter indicating the number of TRN-Units~~ is set to 0 (see 30.2.2, Table 27)~~. It may also not be transmitted if EDMG\_TRN\_LEN > 0 and beam tracking request was initiated (see 30.9).~~ or, as defined in 10.38.7, if EDMG\_TRN\_LEN set to a value greater than 0, BEAM\_TRACKING\_REQUEST set to 0, EDMG\_BEAM\_TRACKING\_REQUEST set to 1, and EDMG\_PACKET\_TYPE set to EDMG-TRN-R-PACKET.

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1396 | 30.2.2 | 223.01 | EDMG\_TRN\_LEN may also be used to indicate a requested number of TRN-Units used for RX beam tracking (see 10.38.7). | Add note stating EDMG TRN Length may also be used to indicate a requested length as part of bem tracking. |

**Proposed resolution**: Revised

**Modification:** Change the value of the parameter EDMG\_TRN\_LEN in page 223 as follows

*Indicates the number of TRN-Units in the TRN field of a PPDU or, as defined in 10.38.7, a requested number of TRN-Units for receive beam tracking. Values are in the range 0–255 (see 30.9.2.2.5).*

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| 1395 | 30.3.3.3.2.3 | 248.01 | EDMG TRN Length may also be used to indicate a requested number of TRN-Units used for RX beam tracking (see 10.38.7). | Add note stating EDMG TRN Length may also be used to indicate a requested length as part of bem tracking. |

**Proposed resolution**: Revised

**Modification:** Modify the description of the EDMG TRN Length field in Table 36 as follows

*Corresponds to the TXVECTOR parameter EDMG\_TRN\_LEN. Indicates the number of TRN-Units present in the TRN field of the PPDU or, as defined in 10.38.7, a requested number of TRN-Units for receive beam tracking.*

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed change** |
| 1490 | 10.38.7 | 160.15 | In 802.11ad beam tracking was optional and it should remain so for 802.11ay. The text here needs to clarify that and EDMA may only request and EDMG STA to perform beam tracking if both STAs set their DMG STA BeamTrackingTimeLimit values to something non-zero. | Add the text as described. |

**Proposed resolution**: Rejected

**Background: “**Mandatory and optional procedures in the beamforming mechanism” are defined in Table 10-19 of 802.11-2016. Under beam tracking, it is defined that supporting beam tracking with Feedback = BS-FBCK is mandatory, and supporting beam tracking with Feedback = Channel measurement is optional. The 802.11ay spec draft does not change this specification.

As described in 10.38.7 of 802.11-2016, BeamTrackingTimeLimit does not impact the mandatory status of beam tracking support. All it does is to specify the timing of the feedback. The 802.11ay spec draft does not change this specification.