IEEE P802.11
Wireless LANs

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|  Comment Resolution for CID 1161 |
| Date: 2021-3-10 |
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Abstract

This submission proposes resolution of a comment related to 60 GHz operation from Comment Collection on TGbd Draft 1.0

CID 1161

Revision history:

r0 initial

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 1161 | 6 | 23.01 | For STAs operating in 60GHz band, it is unclear whether some context (e.g. operating channel) is shared between the MAC and higher layer or not before the MAC receives MLME-\*\*.request primitive. For example, it is needed to specifed over which channel the STA performs beamforming training when it receives MLME-BF-TRAINING.request from the higher layer. | 11-20/1303r1 proposes MLME primitives to perform initial beamforming.Another contribution to be provided for extension on MLME-BF-TRAINING. | **Revised**It is proposed that the channel number information is indicated by higher layer through MLME-DMG-OCB-START.request primitive in 11-21/0045r2. So MLME-BF-TRAINING.request doesn’t need to include the channel number information. But there’re missing subfield in SSW frame in Draft 1.1 to be used outside the context of a BSS.TGbd Editor: Incorporate the change in [https://mentor.ieee.org/802.11/dcn/21/11-21-0383-00-00bd-comment-resolution-for-cid-1161-dmg- beamforming.docx](https://mentor.ieee.org/802.11/dcn/21/11-21-0383-00-00bd-comment-resolution-for-cid-1161-dmg-%20beamforming.docx) for CID 1161 |

**Discussion**

**In 11-21/0045r2, the procedure to perform discovery of peer STAs by a DMG STA outside the context of a BSS was proposed. The procedure includes transmission of DMG Beacon frames, and enables the DMG STA to perform discovery and initial beamforming training with a peer STA without any information of the peer STA in advance. The parameters required to perform discovery are informed by the higher layer within the MLME-DMG-OCB-START.request primitive that was proposed in 11-21/0045r2.**

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| --- |
| MLME-DMG-OCB-START.request( Channel Number, Discovery Beacon, DMG Parameters, DMG Capabilities, EDMG Capabilities VendorSpecificInfo ) |

**The other case is that the STA obtains the MAC address and the basic capability of a peer STA from the higher layer – for example, the information is advertised over the other frequency band. This case is not described in 11-21/0045r2. We propose the text below to describe:**

1. **MLME-BF-TRAINING.request primitive, which was initially defined in 11ad and extended in 11ay, can be used when the peer MAC address is known outside the context of a BSS. An example sequence chart is proposed to describe it.**
2. **We propose to add the OCB Mode subfield to the Sector Sweep Feedback Field when transmitted as part of an Initiator Sector Sweep (ISS), so the peer (responder) STA can know the beamforming training (BFT) is intended to be performed outside the context of a BSS, when the initiator STA starts the BFT upon the reception of an MLME-BF-TRAINING.request primitive.**

**Proposed changes to D1.1**

9.5.3 Sector Sweep Feedback Field

*TGbd Editor: Please insert the following at the beggining of the subclause:*

*Change Figure 9-848 as follows*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 B8 | B9 B10 | B11 B15 | B16 | B17 | B~~17~~18 B23 |
|  | Total Sectors in ISS | Number of RX DMG Antennas | Reserved | Poll Required | OCB Mode | Reserved |
| Bits: | 9 | 2 | 5 | 1 | 1 | ~~7~~6 |

**Figure 9-848 – SSW Feedback field format when transmitted as part of an ISS**

*Note to the TGbd editor: The proposed text in this submission doesn’t include text for the explanation for the OCB Mode subfield since the subfield is included in Figure 9-848a already, and the related text that was proposed in 11-21/0045r2 should be shared by Figure 9-848 and 9-848a.*

11.1.4.X DMG Discovery outside the context of a BSS

*TGbd Editor: Please add the following after the last paragraph:*

Figure 11-x illustrates an example of the DMG Discovery outside the context of a BSS, in which the Discovery Beacon parameter is set to true in the MLME-DMG-OCB-START.request primitive for both STAs.

Figure 11-y illustrates an example of the DMG Beamforming before discovering the peer STA outside the context of a BSS, in which the MAC address of the peer STA is informed over higher layer and included in the MLME-BF-TRAINING.request primitive.

*TGbd Editor: Please add the following figure after Figure 11-x:*



**Figure 11-y – DMG Beamforming before discovering the peer STA outside the context of a BSS**

31.3.3 DMG Beamforming outside the context of a BSS

*TGbd Editor: Please insert the following after the last paragraph:*

A DMG STA for which dot11OCBActivated is true may transmit SSW frames as described in 10.42.6 (Beamforming in DTI) outside the context of a BSS. The DMG STA shall set the OCB Mode field to 1 when the STA performs beamforming training with the SSW frame outside of the context of a BSS.

**References**

[1] Draft P802.11bd D1.1

[2] 11-21/0045r2 CIDs 1154 1158 1344 DMG STA operation in OCB