IEEE P802.11  
Wireless LANs

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| Resolution for CID 53 | | | | |
| Date: November 15, 2022 | | | | |
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Abstract

This submission proposes resolution to CID 53. The text used as reference is 802.11bf D0.4.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revised based on Rui’s CR doc.:11-22/0980r5.
* Rev 2: Revised based on Nov. 22 online meeting.
* Rev 3: Remove the unapproved “Sounding Mode subfield”.

**Comment:**

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| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 53 | 11.21.20.5.2a | 86.24 | Coordinated Monostatic Instance Request/Response frame can also recommend specific directions by indicating the Tx/Rx beams to be used in each DMG sensing instance. | Before the Initiation phase of Coordinated DMG sensing instance, the AP may not know which STA(s) will participate in Coordinated DMG sensing. Therefore, the specific directions indicated in DMG Measurement Setup phase may need to be updated by Coordinated Monostatic Instance Request/Response frame. | **Revised.**  TGbf editor please implement changes as shown in doc 11-22/1958r3 tagged as #53. |

**Discussion:**

As shown in fig. 1, (E)DMG STA 1, (E)DMG STA 2 and (E)DMG STA 3 are performing parallel coordinated monostatic sensing.



Fig. 1

Doc.: 11-22/0980r5 stated that “*If the sounding phase in a coordinated monostatic sensing instance happens in parallel, the sensing initiator should assign transmit beams to different responders (e.g. to avoid interference across multiple responders) by setting the TX Beam List subelement in the DMG Sensing Measurement Setup element in the DMG Sensing Measurement Setup Request frame.*” However, PCP/AP may not know which STA(s) will participate in parallel coordinated monostatic sensing before DMG measurement setup phase. PCP/AP may adopt implementation specific algorithm to calculate the non-interfering beams among the three STAs. For example, AP assigns beam 2 ~ beam *a* to (E)DMG STA 1.

AP assigns beam 2 and beam 4 ~ beam b to (E)DMG STA 2.

AP assigns beam 2 and beam 4 ~ beam c to (E)DMG STA 3.

If STA 2 rejects to participate in the parallel coordinated monostatic sensing (only STA 1 and STA 3 participates), beam 1 of STA 1 and beam 1&3 of STA 3 can be used for parallel coordinated monostatic sensing. **That is to say, the participation of STA 2 will affect the Tx Beam List of STA 1 and STA 3.** If PCP/AP gets to know that STA 2 will not participate in parallel coordinated monostatic sensing in DMG measurement setup phase, it can re-calculate the non-interfering beams and update the TX Beam List in the DMG Sensing Request frame.

**Discussion end**

***TGbf Editor: Please revise subclause 9.3.1.25.5 (DMG Sensing Request) as below.***

##### 9.3.1.25.5 DMG Sensing Request

The TDD Beamforming Information field of a DMG Sensing Request frame(#649, #109) is shown in Figure 9-110a (TDD Beamforming Information field format(#649, #109, #417)).



Figure 9-110a—TDD Beamforming Information field format(#53, #649, #109, #417)

The Updated TX Beam List subfield contains a list of transmit beam indices. The beam indices represent indices in the Beam Descriptors list sent within the DMG Sensing Beam Descriptor element (see 9.4.2.322 (DMG Sensing Beam Descriptor element)) with the TX Flag field set to 1. The Updated TX Beam List subfield is defined in Figure 9-xxx (Updated TX Beam List subfield format). (#53)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Number Beam Indices | Beam Index 1 | … | Beam Index N | Padding |
| Bits: | 8 | 12 |  | 12 | 0-7 |

Figure 9-xxxx—Updated TX Beam List subfield format (#53)

If the Number Beam Indices subfield equals to zero, none of the Beam Index subfield are present. (#53)

***TGbf Editor: Please add the following to subclause 11.55.3.6.2.1 (Initiation).***

##### 11.55.3.6.2 Coordinated monostatic DMG sensing instance

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##### 11.55.3.6.2.1 Initiation

The sensing initiator may update the transmit beams assigned to the responder in DMG Sensing Measurement Setup Request frame by setting the Updated TX Beam List subfield in the TDD Beamforming Information field in the DMG Sensing Request frame. (#53)

**SP: Move to approve resolutions to CID 53 as specified in doc.: 11-22/1958r3 and incorporate the text changes into the latest TGbf draft.**