IEEE P802.11  
Wireless LANs

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| LB276 - Comment resolutions for DMG part 3 | | | | |
| Date: 2023-11-15 | | | | |
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This submission includes the resolutions for the following three comments to P802.11bf D2.0:

##### 3331, 3332, 3333

##### Revision history:

##### R0 – initial version

R1 – revise the proposed text

R2 – further revision

**CID: 3331, 3332, 3333**

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| --- | --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change | Proposed resolution |
| 3331 | 11.55.3.4 | 171 | 34 | This paragraph describes a solution for the sounding phase in the parallel mode in coordinated monostatic sensing to aviod interference across multiple sensing responders, i.e., using the transmit beams assigned by the sensing initiator by setting the TX Beam List subelement in the DMG Sensing Measurement Session element in the DMG Sensing Measurement Request frame. This solution cannot gurantee to fully avoid interference across multiple sensing responders for all scenarios. | Need to further consider other solutions that can avaid interference across sensing responders in parallel sounding in coordinated monostatic sensing. | REVISED  TGbf editor: please revise th text in 802.11bf D2.1 as proposed in 11-23/2008r2. |
| 3332 | 11.55.3.6.2.3 | 181 | 42 | As specified in subclause 28.9.4, "the TRN field in EDMG SC PPDUs may be used as the waveforms of the TRN field of a coordinated DMG monostatic sensing PPDU. Each responder in the parallel mode of coordinated DMG monostatic sensing may be assigned with a unique TRN subfield waveform for EDMG SC PPDUs." Those TRN subfields assinged to different sensing responders are orthogonal. However, Figure 11-75o shows that monostatic sounding PPDUs may not be fully aligned in time. How to maintain the orthogonality of sounding signals in the parallel mode for accurate sensing mesurement? | Need to further consider the sounding signals trasnmission in the parallel mode of coordinated monstatic DMG sensing. | REVISED  TGbf editor: please revise th text in 802.11bf D2.1 as proposed in 11-23/2008r2. |
| 3333 | 11.55.3.6.2.3 | 181 | 42 | Transmissions of sounding PPDUs by multiple sensing responders simutaneously over a single channel in the parallel mode in coordinated monostatic sesning may impact on the synchronization of the PPDUs and/or TRN field, and the subsequent measurement results in the measurement phase. | Further consider transmission of sounding PPDUs over different channels for different sensing responders. | REVISED  TGbf editor: please revise th text in 802.11bf D2.1 as proposed in 11-23/2008r2. |

*Discussion:*

All CID#3331, 3332, 3333 address a potential issue that the procedure of parallel coordinated DMG monostatic sensing specified in the subclause 11.55.3.6.2.3 in 802.11bf D2.0 cannot gurantee to fully avoid interference across multiple sensing responders by using the different transmit beams assigned by the sensing initiator which sets the TX Beam List subelement in the DMG Sensing Measurement Session element in the DMG Sensing Measurement Request frame. As shown in Figure 11-75o, in the sounding phase, multiple Monostatic sensing PPDUs are transmitted in parallel over a single channel.

Since in EDMG, multichannel operations can be scheduled for an either SP or a CBAP allocation in DTI, to minimize the cross-interference between sensing PPDUs simultaneously transmitted by different sensing responders in parallel coordinated monostatic sounding, in 11-23/1247r0 it is proposed that in parallel coordinated monostatic sensing, different monostatic responders use different channels to transmit respective Monostatic PPDUs.

This contribution provides resolutions to the comments CID#3331, 3332, 3333 by addressing the channel access and the indication of channels to be used in the the sounding phase for parallel coordinated monostatic DMG sensing over multiple channels, which are discussed in 11-23/2025r2 in details.

TGbf editor: please modify the text in P43L45 in the following subclause in 802.11bf D2.1 as follows

**9.3.1.25.5 DMG Sensing Request frame**

The EDMG TRN Length, RX TRN-Units per Each TX TRN-Unit, EDMG TRN-Unit P, EDMG TRN-Unit

M, EDMG TRN-Unit N, TRN Subfield Sequence Length, Sense Multiple Golays, and Sense Golay

Index fields contain the values of the corresponding header fields in the EDMG multistatic sensing PPDU.

These fields are reserved if the Sensing Type is set to Coordinated Monostatic or Coordinated Bistatic.

The Monostatic Sounding Mode field indicates whether the sounding phase of the coordinated monostatic

DMG sensing measurement exchange is performed in sequential or parallel mode. A value of 1 indicates the

sequential mode, a value of 0 indicates the parallel mode. This field is reserved if the Sensing Type is not set

to Coordinated Monostatic.

The BW field is set to a non-zero value, in which ‘one’ indicates the channel over which in the sounding phase, a Monostatic PPDU is transmitted if the Sensing Type is set to Coordinated Monostatic with the Monostatic Sounding Mode field set to 0. The BW fields carried within different DMG Sensing Request frames are set to different non-zero values. The operating channel indicated in the BW field is one of the channels as specified in the BSS Operating Channels field and Primary Channel field within the EDMG Operation element (see 9.4.2.266 EDMG Operation element(11ay)) transmitted by an EDMG AP or an EDMG PCP (see 10.23.2.14 (EDCA channel access in an EDMG BSS(11ay))). The BW field is set to all ‘zeros’ if the Sensing Type is set to Coordinated Monostatic with the Monostatic Sounding Mode field set to 0 to indicate that in the sounding phase Monostatic PPDUs are transmitted solely on the primary channel. The BW field is reserved if the Sensing Type is set to Coordinated Bistatic or Coordinated Monostatic with the Monostatic Sounding Mode field set to1.

TGbf editor: please add a note after the last paragraph of 9.3.1.25.6 (DMG Sensing Resonse frame)

**9.3.1.25.6 DMG Sensing Response frame**





NOTE – Both the Sounding Duration field and the Report Duration field are set to zeros in a DMG Sensing Response frame when the Responder is unable to participate in parallel coordinated monostatic DMG sensing or sequenctial coordinated monostatic DMG sensing.

TGbf editor: please add the note after the last paragraph of subclause 11.55.3.6.2.3 (Parallel coordinated monostatic DMG sensing measurement exchange) in 802.11bf D2.1 as follows

NOTE - The responder that receives the last DMG Sensing Request frame in order shall transmit monostatic sensing PPDU over the primary channel. The initiator shall first poll the responder that receives the last DMG Sensing Request frame in order over the primary channel.