IEEE P802.11
Wireless LANs

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| CC40 DMG sensing req CIDs |
| Date: 2022-06-13 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Assaf Kasher | Qualcomm |  |  | assaf.kasher@gmail.com |
|  |  |  |  |  |

Abstract

This document proposes resolution to CC40 CIDs on DMG sensing req, response and poll. The resolved CIDs are: 330, 656, 434, 225, 657, 679, 652, 649, 109

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| 330 | 9.3.1.25.5 | 29.42 | "The STA Multistatic ID field indicates the order of the receiving STA in the EDMG Multistatic Sensing PPDU." and the definition appears in 11.21.20.5.5a Initiation:"The sensing initiator shall set the STA Multistatic ID subfield to a value between 0 and 7 indicating the order of the sensing responder in the sync fields of the EDMG Multistatic Sensing PPDUs." The order is useless. I expect that the STA Multistatic ID indicates the unique per STA Sync pattern. In addition, it shall be a parameter of the offset of the start of the sounding TRNs relative to the Sync field. | Provide the definition of the mentioned parameters |  Revise: TGbf editor, perform changes proposed in [https://mentor.ieee.org/802.11/dcn/22/11-22-0918-01-00bf-CC40-DMG-sensing-req-CIDs.docx](https://mentor.ieee.org/802.11/dcn/22/11-22-0918-00-00bf-CC40-DMG-sensing-req-CIDs.docx) |

***TGbf Editor: Modify the text in P29L42 as follows:***

The STA ID field indicates the index of the receiving STA sync subfield **(#330)** in the EDMG Multistatic Sensing PPDU.

***TGbf Editor: Modify the text in P88L12-13 as follows***

initiator shall set the STA ID subfield to a value between 0 and 7 indicating the index of the sensing responder sync subfield **(#330)** in the sync field of the EDMG Multistatic Sensing PPDUs. EDMG Multistatic Sensing

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| 656 | 9.3.1.25.5 | 29.54 | How to use multiple PPDUs in one instance is not defined. | If we use multiple PPDUs in an instance, all TRN fields should be allocated evenly in every PPDU. Because synchronization performance degrades with increasing PPDU length. It is better to make every PPDU as short as possible. |  Reject, How to transmit multiple EMDG multi-static sensing PPDUs is described in 11.21.20.5.5b (Sounding) |

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| 414 | 9.3.1.25.5 | 29.57 | The paragraph in L57-60 describes a field that does not exist | delete the paragraph describing The start #N PPDU at lines 57-60 |  Accept |
| 225 | 9.3.1.25.5 | 29.57 | There isn't a field called "Start of #N PPDU" in Figure 9-110a, or in any figure shown in the Draft. | Delete this sentence from Line 57 to Line 60. |  Accept |

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| 657 | 9.3.1.25.5 | 29.57 | The Start of #N PPDU fields are missing in Figure 9-110a | Add these fields in Fugure 9-110a |  Reject, The group agreed to remove this field |
| 679 | 9.3.1.25.5 | 29.57 | The sentence "The Start of #N PPDU field..." is unclear | I can't find this field in the figure, please indicate where this field is to be found. The use fo # to denote number does not seem to be consistently used. Make sure consitent use, whatever that is. |  Reject, The group agreed to remove this field |

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| 652 | 9.3.1.25.5 | 29.62 | The 'TRN-Unit P', 'TRN-Unit M', 'TRN-Unit-N' fields in the DMG Multi-Static Sensing Request frame and 'TRN-P', 'TRN-M', 'TRN-N' fields in the DMG Sensing Measurement Setup element repeat. | Change 'TRN-Unit P', 'TRN-Unit M', and 'TRN-Unit-N' fields in the DMG Multi-Static Sensing Request frame to be optional fields and controlled by a control field. |  Reject, those fields should be deleted from the DMG Sensing Measurement Setup frame, they should be as close to the actual transmission. |

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| 649 | 11.21.20.5.4 | 87.58 | Bistatic Instance Request frame is mentioned here, but there is no such frame in the draft. Description of Bistatic Instance Request frame is needed. | As in comment. | Revise TGbf editor, perform changes proposed in [https://mentor.ieee.org/802.11/dcn/22/11-22-0918-01-00bf-CC40-DMG-sensing-req-CIDs.docx](https://mentor.ieee.org/802.11/dcn/22/11-22-0918-00-00bf-CC40-DMG-sensing-req-CIDs.docx) |
| 109 | 11.21.20.5.5a | 88.04 | It appears that the "DMG Sensing Request" is defined as "DMG Multistatic Sensing Request", but this is not clear. | Either define a "DMG Sensing Request" or change all occurences of "DMG Sensing Request" to "DMG Multistatic Sensing Request". | Revise TGbf editor, perform changes proposed in [https://mentor.ieee.org/802.11/dcn/22/11-22-0918-01-00bf-CC40-DMG-sensing-req-CIDs.docx](https://mentor.ieee.org/802.11/dcn/22/11-22-0918-00-00bf-CC40-DMG-sensing-req-CIDs.docx) |

Discussion: The DMG Sensing Instance request frame may be used in Coordinated Monostatic, Coordinated bi-static and Multi-static. Therefore, it may be beneficial to rename the frame to be DMG sensing request and use it in all the procedures.

***TGbf editor: in the second line table 9-55a, in the Frame usage column, (P28L29) replace “DMG Multistatic Sensing Request” with “DMG Sensing Request”***

***TGbf Editor: change the title of 9.3.1.25.5 from “DMG Multistatic Sensing Request” to “DMG Sensing Request”***

***TGbf Editor: in P29L6 replace “DMG Multistatic Sensing Request” with “DMG Sensing Request”***

***TGbf Editor: Change the text in P88L8-10 as follows***

The sensing initiator initiates the multistatic EDMG sensing instance by sending DMG **(#649)** Sensing

Request frames to each of the intended sensing responders. The Sensing Measurement ID and the Sensing

Instance ID subfields shall have the same value in all DMG **(#649)** Sensing Request frames. The sensing

***TGbf Editor: Change figure 110a—TDD Beamforming Information field format as follows:***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 B7 | B8 B15 | B16 B23 | B24 B26 | B27 B29 | B30 B37 |
|  | Measurement Setup Id | Measurement Burst Id | Sensing Instance Number | Sensing Type | STA Multi-Static Id | First Beam Index |
| bits: | 8 | 8 | 8 | 3 | 3 | 8 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B38 B40 | B41 B42 | B43 B50 | B51 B58 |
|  | Num of STAs in Instance | Num of PPDU in Instance | EDMG TRN Length | RX TRN-Units per Each TXTRN-Unit |
| bits: | 3 | 2 | 8 | 8 |

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| --- | --- | --- | --- | --- | --- |
|  | B59 B60 | B61 B64 | B65 B66 | B67 | B68 B71 |
|  | EDMG TRN-Unit P | EDMG TRN-Unit M | EDMG TRN-Unit N | TRN Subfield Sequence Length | Reserved |
| bits: | 2 | 4 | 2 | 1 | 5 |

***TGbf Editor: throughout the draft replace “STA Multi-static ID” with “STA ID”***

***TGbf Editor: insert the following text at P29L42***

The Sensing Type field indicates the type of sensing request by the DMG Sensing Request. It takes values indicated in

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| --- | --- |
| Value | Description |
| 0 | Coordianted Monostatic |
| 1 | Coordinated Bistatic |
| 2 | Multistatic |
| 3-7 | Reserved |

TGbf Editor: add the following text at the end of P29L25:

These fields are reserve if the Sensing Type field is set to Coordinated Bistatic.

***TGbf Editor: insert the following after clause 9.3.1.25.6***

**9.3.1.25.6 DMG Sensing Response**

The TDD Beamforming Information field of a DMG Sensing Response frame is empty.

***TGbf Editor: modify the text in P 87L49-50 as follows:***

* The sensing initiator shall send a DMG Sensing **(#649)** Request frame to each sensing responder it invites to participate in the sensing instance

***TGbf Editor: change the text in P87L58 as follows:***

* The order of sounding is indicated in the STA Id field of the DMG Sensing **(#649)** Request frame

***TGbf Editor: change the text in P86L11-25 as follows:***

— The number of sensing responders in each coordinated monostatic DMG sensing instance of the same DMG Measurement Setup ID may be different

— The sensing initiator shall send a DMG Sensing Request frame to each sensing responder it requests to participate in the coordinated monostatic DMG sensing instance

— The sensing responder shall not respond with the DMG Sensing **(#649)** Response frame to the sensing initiator later than SIFS time after the request

— The sensing responder that responded to the sensing initiator shall proceed with monostatic sensing

— The order of sounding is indicated in the STA Id field of the DMG Sensing Request **(#649)** frame, and the sounding may be performed either sequentially or simultaneously

— The interpretation of the fields of the DMG Sensing Request frame when used in coordinated monostatic sensing is **(#649)** TBD

**References:**