IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB276-DMG-CIDs-set-1 | | | | |
| Date: 2023-09-27 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Assaf Kasher |  |  |  | assafk@ieee.org |
|  |  |  |  |  |

Abstract

This document proposes resolution to the following DMG CIDs: 3118, 3122, 3235, 3236, 3237, 3238, 3383, 3384, 3375, 3267, 3122, 3273, 3240, 3242, 3243, 3244, 3385, 3379, 3224, 3225, 3229, 3230, 3231, 3232.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3118 |  | 0.00 | "Target Index" is not defined in ch 11 "Elevation Span" ,.... | Need text in ch 11 | Revised,  ,TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-DMG-CIDs-set-1.docx |

***TGbf Editor: Add the following text at the end of 11.55.3.7 P188L31:***

If the Report Type field of the Report Control field of a DMG Sensing Report Control element is set to 7 (Target) then the DMG Sensing Image Report Data subelements in the associated DMG Sensing Report Element contains DMG Sensing Targets Report fields. Each DMG Sensing Targets Report field, is associated with a Target and identified by the Target Index field. A Target Index is associated with measurements that the STA generating the report estimates that belong to a single object. If a STA estimates that a particular target is consistent in different reports (in different times, e.g., over different bursts), it may set to Target Index field to a consistent non-zero value.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3122 | 11.55.3.4 | 171.49 | "If present, the Peer Orientation field contains the azimuth, elevation, and range of the sensing responder as measured by the sensing initiator. If present, the LCI field contains the location of the sensing initiator. The azimuth and elevation fields in the Peer Orientation field within the Measurement Session Control field shall be reported in earth coordinates, if the Earth Coordinates field in the Short DMG Sensing Capabilities field is equal to 1, and in an arbitrary STA's coordinate system, if the Earth Coordinates field is equal to 0." The term STA can be confusing | Replace "STA's" with "sensing initiator's" | Revised,  ,TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***Discussion:***

The proposal is correct however, it is missing the same issue with orientation sent by the responder, whose coordinates system is totally ignored.

***TGbf Editor: Change the test in P172L49 as follows:***

The azimuth and elevation fields in the Peer Orientation field within the Measurement Session Control fieldshall be reported in earth coordinates, if the Earth Coordinates field in the Short DMG Sensing Capabilities field sent by the initiator, is equal to 1, and in an arbitrary sensing initiator’s coordinate system, if the Earth Coordinates field is equal to 0.

***TGbf Editor: Insert the following text at the end P173 (after paragraphs dealing with the peer orientation and LCI fields within the DMG sensing measurement session element sent by the responder).***

The azimuth and elevation fields in the Peer Orientation field within the Measurement Session Control fieldshall be reported in earth coordinates, if the Earth Coordinates field in the Short DMG Sensing Capabilities field sent by the responder, is equal to 1, and in an arbitrary sensing responder coordinate system, if the Earth Coordinates field is equal to 0.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3235 | 9.6.21.3 | 122.14 | The BRP frame fomrat includes "BRP Sensing Reprot Control element" and "BRP Sensing Report element" which do not exist. | replace these element name with "DMG Sensing Report Control element" and "DMG Sensing Report element". Add text to describe when the are present and where they are defined | Revised,  ,TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***TGbf Editor: in table 9-573 BRP frame Action field format, (P122L3-10), replace “BRP Sensing Report Control element” with “DMG Sensing Report Control element” and replace “BRP Sensing Report element” with “DMG Sensing Report element”***

***TGbf Editor: add the following at the end of the first (and only) paragraph in 9.6.21.3 (P121L65):***

The DMG Sensing Report Control element is defined in 9.4.2.329 (DMG Sensing Report Control element). The DMG Sensing Report element is defined in 9.4.2.330 (DMG Sensing Report element).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3236 | 9.6.21.8 | 123.25 | Why is the description of the Allocation field in this place. The Allocaiton field is in 9.4.2.1.130. | Move this description to 9.4.2.130. Another possibility is to delete it and rely on the description in 11.55.3.4 (DMG sensing measurement session) | Revised,  ,TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***TGbf Editor: remove the text in P122L62-65 and P123L10-34.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3237 | 9.6.21.13 | 128.01 | The text in P129L1-12 repeats text in P128L25-60 | Remove this text | Reject, The repeated text was not found |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3238 | 9.6.21.13 | 128.20 | It is not clear how The DMG Sensing Image Range/Doppler Axis LUT elements can be used. This information is Sensing Responder specific. It can apply to all responders | Specify that these elements are present per each respodner in the order of the responder specified in the Sensign Responder Addresses. This mean the the SBP request element should always be present. | revise TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***TGbf Editor: Modify the text in P128L57-65***

The DMG Sensing Image Range Axis LUT element is defined in 9.4.2.327 (DMG Sensing Image Range Axis LUT element). It is present in the DMG SBP Response frame if the Status code is set to SUCCESS. Multiple DMG Sensing Image Range Axis LUT elements, corresponding to different STAs participating in the associated DMG sensing measurement, may be present. If the Status code is not set to SUCCESS , the element is not present.

The DMG Sensing Image Doppler Axis LUT element is defined in 9.4.2.328 (DMG Sensing Image Doppler Axis LUT element). It is present in the DMG SBP Response frame if the Status code is set to SUCCESS. Multiple DMG Sensing Image Doppler Axis LUT elements, corresponding to different STAs participating in the associated DMG sensing measurement, may be present. If the Status code is not set to SUCCESS , the element is not present.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3383 | 9.6.21.15 | 130.40 | Bad field name - "DMG SBP Session Unseccess" | replace with "DMG SBP Session Unsuccessful" | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3384 | 9.6.21.15 | 130.40 | The concept of separate termination for Coordianted Multistatic, Bistatic and Multi-statisc DMG SBP sessions does not make sense, especially from the point of view of the SBP initiator, which has not control in the request on the type of session the responders will use | Combine all these fields into one field | Reject, The initiator may request different type of Sensing types in the DMG Sensing measurement Session element sent in the DMG SBP request |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3375 | 11.3.3 | 133.27 | "DMG Action frames" without any qualifiers conflicts with "unprotected DMG Action frames" as Class 1. Unprotected DMG Action frames are now in both Class 1 and Class1a | Change to "Protected DMG Action frames" | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3267 | 11.55.3.1 | 167.36 | replace "Intra" with "intra" | As in comment | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3273 | 11.55.3.6.2.1 | 176.19 | The PPDUs are transmitted, but one cannot guarantee that they actually are received | remove "and received" | Reject  Normally, Transmitted PPDUs are not guaranteed to be received. However, this a monstatic transmission, the leakage from the transmit is always received |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3240 | 11.55.3.6.3 | 182.27 | "transmitted by the sensing initiator, after a BRPIFS" - missing word | replace with "transmitted by the sensing initiator, followed after a BRPIFS" | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3242 | 11.55.3.6.5.1 | 185.12 | "The sensing initiator sets the start of the PPDU fields to the time, in microseconds, from the end of the DMG Sensing Request frame to the beginning of the EDMG multistatic sensing PPDU in the multistatic EDMG sensing instance." - the start of N'th PPDU field no longer exist in the DMG Sensing Request frame. | Remove this sentence | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3243 | 11.55.3.6.5.2 | 185.31 | Missing Referece to what is an "EDMG Multistatic sesning PPDUs" | insert a reference to 28.9.4 after the first mentioning of EDMG multistatic sensing PPDUs in this paragraph | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3244 | 11.55.3.6.5.2 | 186.45 | When a report of a DMG meausrement is carried ina DMG Sensing Report frame, it is not when it is valid to send a report on a specific instance. | Add a sentence that a report is always on either the current instance or previous instance in sensing types 1,2,4 or the current burst or pevious burst in sensing types 3,5,6,4 | revise TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***TGbf Editor: Insert the following text at the bottom of page 187 (after 4th paragraph of 11.55.3.7):***

For the DMG Sensing Report element or Channel Measurement Feedback elements carried within a DMGSensing Report frame, the measurements, which the report is based on are from either the current instance or the previous instance if the value in the Report Type field is 1,2,4, or based on the previous or current burst if the value in the Report Type field is 3,5,6,7.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3385 | 11.55.4.4 | 192.57 | When an SBP initiator (for that matter, either DMG or not), is also a responder in the related measurement session, can it terminate the session? If it does, does it terminate the (DMG) SBP session | Add text to describe that when an SBP initiator that is also a responder in the related session terminiates the session, the SBP session is terminated | Reject.  There is no need for this clarification since the frames that indicates DMG SBP termination is different from the frame that indicates DMG Measurement Session termination |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3379 | 36.2.2 | 205.26 | "transmit antennas" and "Receive antennas" should be "transmit chains" and "receive chains", which are clearly defined in REVme D4.0. | As in comment | Revise:  TGbf Editor: in Table 36-1 in value column of the CSI\_ESTIMATE line, replace “receive antennas” with “receive chains” and “transmit antennas” with “transmit chains” |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3224 | 9.4.2.35 | 68.56 | Figure 9-393 is missing the DMG positioning field that is introduced in 802.11az which part of 11bf baseline | Add the field. Check with RevME editor where is should be. | Revise:  TGbf Editor, Add a field “DMG Positioning” before the Sensing field in figure 9-393. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3225 | 9.4.2.35 | 68.56 | Add a field called DMG sensing that indicates that to the AP supports DMG sensing. That can be used for STAs that are working at <7GHz to know that they can improve sensing by using their collocated DMG STA and its and the AP's sensing capabilities | Add a field called DMG Sensing. Add a line saying "The DMG Sensing field indicates that the AP supports DMG sensing" | Revise  TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***Discussion:***

Following the example of TGaz, this field should go into the extended capability element, rather than the neighbor report element.

***TGbf Editor: Add the following line as the last line in table 9-190:***

|  |  |  |
| --- | --- | --- |
| ANA | Collocated DMG Sensing AP | An AP sets this field to 1 to indicate that it is collocated with a DMG AP that has sensing capabilities |

***TGbf Editor: Modify the values in the bit columns of table 9-190 so they are following the values used in TGaz and TGbe.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3229 | 9.4.2.323 | 82.56 | Direction can be also transmit beam index and azimuth and elevation. | Add at the end of the paragraph: "Direction can also be represented as Transmit Beam Index, azimuth and elevation | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3230 | 9.4.2.323 | 82.65 | Direction can be also transmit beam index and azimuth and elevation. | replace "Receive Beam Index" with "Receive Beam Index or azimuth and elevation" | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3231 | 9.4.2.323 | 83.02 | Direction can be also transmit beam index and azimuth and elevation. | replace "Receive Beam Index" with "Receive Beam Index or azimuth and elevation" | Accept |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3232 | 9.4.2.326 | 87.44 | There is a need to enable request azimuth and elevation as a report type in case the report includes direction | in the Report Type Control filed format, replace one of the reserved bits with a field called az-el direction. After the paragraph describing the Report Phase subfield, add a paragraph describing the az-el direction field | Revise  TGbf editor perform changes specified in https://mentor.ieee.org/802.11/dcn/23/ 11-23-1921-01-00bf-lb276-dmg-cids-set-1.docx |

***TGbf Editor: Add a field “*RX Azimuth Elevation Direction*” to the Report type Control field format in figure 9-1002bu, reducing the number of reserved bits to 1.***

***TGbf Editor: Add the following paragraph in P88L14, following the paragraph describing the report phase.***

The RX Azimuth Elevation Direction field indicates that the sensing initiator requests that receive direction information will be reported in azimuth/elevation format rather in receive beam index format, if the report includes direction reporting.

SP: Do you agree to the resolution for CIDs: 3118, 3122, 3235, 3236, 3237, 3238, 3383, 3384, 3375, 3267, 3273, 3240, 3242, 3243, 3244, 3385, 3379, 3224, 3225, 3229, 3230, 3231, 3232 as proposed in document 11-23-1921r1

**References:**

**[1] Draft P802.11bf\_D2.1**