IEEE P802.11  
Wireless LANs

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| --- | --- | --- | --- | --- |
| Resolution of DMG CID 351, 356 | | | | |
| Date: 2022-10-30 | | | | |
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|  |  |  |  |  |

Abstract

Resolution of the DMG CIDs 351 and 356

Revisions History:

r1 – The definition of the Distance Between DMG sensing Bursts subfield is clarified.

The text in 9.6.21.8 DMG Sensing Measurement Setup Request frame format is changed.

r2 – Fixed typo in SP definition

r3 – text modifications in 11.21.20.4 DMG measurement setup

| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 351 | 11.21.20.1 | 74.44 | "A DMG sensing procedure is composed of one or more of the following:" The procedure is meaningless without the DMG sensing instance, so it always is presented in the procedure. The text does not reflect it. | Replace with "A DMG sensing procedure is composed of a DMG sensing instance (11.21.20.5 (DMG sensing instance)) and one or more of the following: DMG sensing session setup (11.21.20.2 (DMG sensing session setup)), DMG measurement setup (11.21.20.3 (DMG measurement setup)), DMG sensing burst (11.21.20.4 (DMG sensing burst)), DMG measurement setup termination (11.21.20.6 (DMG measurement setup termination)), and DMG sensing session termination (11.21.20.7 (DMG sensing session termination))." | **Accept** |
| 356 | 11.21.20.3.1 | 82.45 | "The operational attributes may include intra-burst and inter-burst schedule, number of instances per burst,..." The use of the DMG SP for sensing purposes shall be defined. | Provide submission that defines the use of the DMG SP for sensing purposes | **Revised**  See 11-22-1830-03-00bf Resolution of DMG CID 351 356 |

CID 356

Discussion:

See discussion and proposal how to resolve CID 356 in 11-22-1829-00-00bf DMG CID 356 introduction.

***TGbf editor, provide the following changes to the baseline spec IEEE P802.11-REVme™/D2.0, October 2022***

**9.4.2.131 Extended Schedule element**

***Append to Table 9-294—AllocationType subfield values***

|  |  |  |  |
| --- | --- | --- | --- |
| **Bit 4** | **Bit 5** | **Bit 6** | **Meaning** |
| 0 | 0 | 1 | SP for DMG sensing |

***Modify at P1184L37***

When the AllocationType subfield is set to the value equal to SP for DMG sensing, the Allocation Start subfield contains two subfields: Allocation Start for DMG sensing and Distance Between DMG sensing Bursts, as depicted in Figure 9-6xy. Otherwise, #356 the Allocation Start subfield contains the lower 4 octets of the TSF at the time the SP or CBAP starts. The Allocation Start subfield can be specified at a future beacon interval when the pseudo-static subfield is set to 1.

|  |  |  |
| --- | --- | --- |
|  | Allocation Start | |
| Allocation Start for DMG sensing | Distance Between DMG sensing Bursts |
| Octets | 3 | 1 |

**Figure 9-6xy Allocation Start subfield when the AllocationType subfield is set to SP for DMG sensing** #356

Allocation Start for DMG sensing subfield contains the lower 3 octets of the TSF at the time the SP starts. The Allocation Start for DMG sensing subfield is specified at a future beacon interval when the pseudo-static subfield is set to 1.

Distance Between DMG sensing Bursts subfield, when set to a nonzero value, indicates the number of the beacon intervals between the beacon intervals in which the successive DMG sensing Bursts lie. A value of 0 indicates that the distance between DMG sensing bursts is unspecified.

***TGbf editor, change the figure as follows (***IEEE P802.11bf/D0.3, September 2022)

**9.4.2.322 DMG Sensing Measurement Setup element**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 B2 | B3 | B4 | B5 | B6 | B7 |
|  | Sensing Type | RX Initiator | LCI Present | Orientation  Present | SP | Reserved |
| Bits: | 3 | 1 | 1 | 1 | 1 | 1 |

**Figure 9-1002be—Measurement Setup Control field format(#68, #356)**

***TGbf editor, insert new paragraph after the paragraph that starts with “The Orientation Present subfield is…”***

The SP subfield is set to 1 to indicate that the Extended Schedule element isin use . It is set to 0 otherwise. #356

**9.4.2.322.3 DMG Sensing Scheduling subelement**

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|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Subelement ID | Length | Start of Burst | Inter-Burst Interval | Intra-Burst Interval | Number TX Beams Per Instance | Repeat Per Instance | Number Bursts | Number of Instances per Burst |
| Octets | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 1 | 1 |

**Figure 9-1002bi—DMG Sensing Scheduling subelement format(#258, #395, #356)**

***TGbf editor, append a new paragraph at the end of the subclause***

The Number of Instances per Burst field contains the number of times to repeat the instances during one burst. A value of 0 indicates that the number of instances per burst is unspecified.

**9.6.21.8 DMG Sensing Measurement Setup Request frame format**(#263, #215, #262, #377, #219. #356)

***TGbf editor, append at the end of the subclause***

When the SP subfield in the Measurement Setup Control field (Figure 9-1002be—Measurement Setup Control field format) is set to 1, the DMG sensing schedule is provided by the Allocation field (Figure 9-629—Allocation field format) of the Extended schedule element (9.4.2.131 Extended Schedule element).

When the Allocation field provides the DMG sensing schedule, the subfields in the Allocation field are used as follows:

* The AllocationType subfield is set equal to SP for DMG sensing.
* The Allocation Start for DMG sensing subfield is set to the time of the start of the burst in TSF units.
* The Distance Between DMG sensing Bursts subfield is set to the time between the start of successive burst.
* The Allocation Block Period subfield is set to the time between the start of successive instances in the burst.
* The Number of Blocks subfield is set to the number of instances in the burst.
* The Allocation Block Duration subfield is set to the time allocated for the instances.

When the SP subfield in the Measurement Setup Control field (Figure 9-1002be—Measurement Setup Control field format) is set to 1, the subfields Start of Burst, Inter-Burst Interval, Intra-Burst Interval, Number Bursts, and Number of Instances per Burst in the DMG Sensing Scheduling subelement (Figure 9-1002bi—DMG Sensing Scheduling subelement format) shall be set to 0.

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**11.21.20.4 DMG measurement setup**

*P111L2*

When the SP subfield is set to 0 in the Measurement Setup Control field (Figure 9-1002be—Measurement Setup Control field format), #356the DMG Sensing Scheduling subelement(# 364) contains the scheduling of the measurement as proposed by the sensing initiator.

***TGbf editor, insert new paragraph at P111L13***

When the SP subfield is set to 1 in the Measurement Setup Control field (Figure 9-1002be—Measurement Setup Control field format), the DMG Sensing Scheduling subelement and the Extended Schedule element (9.4.2.131 Extended Schedule element) contain the scheduling of the measurement as proposed by the sensing initiator. The AllocationType subfield in the Allocation field of the Extended Schedule element (Figure 9-629—Allocation field format) shall be set equal to SP for DMG sensing. The Source AID subfield in the Allocation field of the Extended Schedule element shall be set to 0, indicating a PCP/AP as the sensing initiator. The Destination AID subfield in the Allocation field of the Extended Schedule element shall be set to the AID of the sensing responder scheduled by the sensing initiator to employ in the sensing instances during the airtime allocation.

The sensing initiator shall set the Allocation Start for DMG sensing subfield to the time of the start of the burst in TSF units. Every DMG sensing burst starts at

TBTT offset = Allocation Start for DMG sensing – Ceil (Allocation Start for DMG sensing/BI)\*BI.

The sensing initiator shall set Distance Between DMG sensing Bursts subfield to the time between the start of successive burst. The sensing initiator shall set the Allocation Block Period subfield to the time between the start of successive instances in the burst. The sensing initiator shall set the Number of Blocks subfield to the number of instances in the burst. The sensing initiator shall set the Allocation Block Duration subfield equal to the time allocated for the instance.

The sensing initiator shall set the Number TX Beams Per Instance field to the number of TX AWV patterns to be used in each instance. The sensing initiator shall set the Repeat Per Instance field to the number of times the sensing transmitter goes through the Number TX Beams Per Instance within the instance (see 11.21.20.6.3 Bistatic DMG sensing instance).

**11.21.20.6.1 General**

A DMG sensing instance is limited to one TXOP or SP. The SP shall be used when the SP subfield is set to 1 in the Measurement Setup Control field of the Sensing Measurement Setup element (9.4.2.322 DMG Sensing Measurement Setup element). Otherwise, the SP shall not be used.

**References:**