IEEE P802.11
Wireless LANs

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| LB272 comments DMG comment 2103 resolution |
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Abstract

This submission contains the proposed comment resolution for the CID 2103.

R0: initial document

# CID 2103

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| CID | Page.Line | Clause Number | Comment | Proposed Change | Resolution |
| 2103 | 204.25 | 11.55.3.6.2 | In DMG sensing, DMG Beacon transmitted in DTI could be reuesd to conduct monostatic sensing to take advantages of its good transmitting properties (e.g. different directions, perodicity). | Commenter will provide a contribution. | Revised.TGbf Editor make changes specified in 1177r1.(https://mentor.ieee.org/802.11/dcn/23/11-23-1177-01-00bf-lb272-comments-dmg-comment-2103-resolution.docx) |

Discussion

The DMG Beacon has very good transmtting properties, e.g. a PCP/AP will transmit a DMG Beacon in different directions periodically. Based on these good properties, a DMG sensing capable PCP/AP could perform monostatic sensing with DMG Beacons to monitor the environment continuously and may share the sensing results to other devices. Such results could provide basic sensing information for the stations (PCP/AP stations or non-PCP/AP stations), and they could further set up a new DMG sensing measurement session based on this information.

An example is shown as follows.



In this example, a PCP/AP is performing monostatic sensing with DMG Beacons, a STA could know that the AP is performing monostatic sensing through some indications within the beacon. If the STA wants the monostatic sensing results, it could request the results by transmitting an Information Request frame with the Element ID of the DMG Sensing Report Control element and DMG Sensing Report element in the Request element field. The PCP/AP responds with an Information Report frame, DMG Sensing Report Control element and DMG Sensing Report element or one or more channel measurement feedback elements.

Furthermore, this approach could be further combined with DMG passive sensing as follows.



Discussion end

***Instructions to the editor: please make the following changes to the Figure 9-1002bl – Short DMG Sensing Capabilities field format in P82L35 and insert the following paragraph to P83L55 as follows:***



Figure 9-1002bl – Short DMG Sensing Capabilities field format

The Beacon Monostatic Available field indicates that the monostatic sensing result with Beacons is available.

***Instructions to the editor: please make the following changes to the paragraphes from P180L49 to P181L9 and insert as follows:***

DMG Passive Sensing allows a STA to use DMG Beacon frame transmissions for sensing by enabling a STA to acquire information about the beacons directions and the PCP/AP location. If monostatic sensing result based on DMG Beacons frame is available at PCP/AP, it can be requested by STAs.

A PCP/AP advertises the capability to perform passive sensing in the DMG Sensing Short Capabilities element (see 9.4.2.324 (DMG Sensing Short Capabilities element)). The PCP/AP shall set the Sensing Support field(#1505) of the Short DMG Sensing Capabilities field to 1 to indicate it supports any type of sensing. The PCP/AP shall set the Passive Sensing Support field to 1, if it supports DMG passive sensing. The PCP/AP shall set the Accurate Timing of Beacons to 1, if the SBIFS between beacon transmission in the BTI is exactly $aSBIFStime\pm T\_{c}/2$, where $T\_{c}$ is defined in Table 20-4 (Timing related parameters). The PCP/AP shall set the Location Available field to 1, if it can provide an LCI field in a DMG Passive Sensing Beacon Information element (see 9.4.2.331 (DMG Passive Sensing Beacon Information element)).

A STA requests information about DMG Beacon frame transmission from a PCP/AP by sending an Information Request frame with the Element ID of the DMG Passive Sensing Beacon Information element in the Request Element field. The PCP/AP responds with an Information Response frame that includes a DMG Passive Sensing Beacon Information element and one or more DMG Beacon Sector Descriptor elements (see 9.4.2.332 (DMG Beacon Sector Descriptor element)). The Sector Azimuth, Sector Elevation, Azimuth Beamwidth, and Elevation Beamwidth fields in the Sector Descriptors field within the DMG Beacon Sector Descriptor element shall be reported in earth coordinates, if the Earth Coordinates field within 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(\*0506).

A PCP/AP advertises its avalibility of monostatic sensing results with Beacons in the DMG Sensing Short Capabilities element. The Beacon Monostatic Available field shall be set to 1 if PCP/AP can provide monostatic sensing result based on DMG Beacon frame. Otherwise, this field shall be set to 0.

A STA requests the sensing result by sending an Information Request frame with the Element ID of the DMG Sensing Report element in the Request Element field. The PCP/AP responds with an Information Response frame that includes one or more DMG Sensing Report elements (see 9.4.2.329 (DMG Sensing Report element)). The DMG Measurement Session ID, Measurement Burst ID and Sensing Instance SN shall be reserved within the DMG Sensing Report element in Information Response frame.

# SP

Do you support resolution to the following CID and incorporate the text changes into the latest TGbf draft: 2103 in 11-23/1177r1?

Y/N/A