IEEE P802.11
Wireless LANs

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| Mutliband\_60GHz\_location\_capability\_publication |
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Abstract

This document presents the changes needed to enable publication of 60GHz location capabilities of STA or APs that are not collocated with the sending AP.

Discussion:

Mobile STA may have a multiband capability allowing them to transmit and receive data in both the 2.4/5GHz band and in the 60GHz band. They may also be able to use location services provided by APs in both the 60GHz band and the lower bands. Such mobile STAs may not have their 60GHz radios always active, to save power when 60GHz service is not available. We propose to enable APs in the 5GHz band to publish the availability of 60GHz location service in APs in the vicinity of the publishing AP.

The proposed methodology is to use two fields in the extended capability element. One field would indicate the existence of 60GHz APs with locations services in the vicinity of the publishing AP.

The second field will indicate that the AP is capable of providing additional information about 60GHz location services APs: their operating channels, their locations (Location Civic Information), their beacon schedule.

The information about those neighboring 60GHz APs will be provided to STA using Neighbor Measurement Request and Report Protocol. The mobile STA requests using the Neighbor Report Request and the AP responds with Neighbor Report Response.

***TGaz Editor: Insert the following new lines in table 9-283 extended capabilities element***

1. —Table 9-283—Extended Capabilities element

|  |  |  |
| --- | --- | --- |
| Bits | Information | Notes |
| <ANA> | PDMG/PEDMG supporting APs in the area | An AP STA sets this field to 1 to indicate that APs providing location services using PDMG/PEDMG are in the vicinity of the AP STA. Definition of vicinity is implementation dependent. |
| <ANA>+1 | PDMG/PEDMG supporting APs information. | An AP STA sets this field to 1 to indicate it is capable of providing information about PDMG/PEDMG APs providing location services in the vicinity of the AP STA. |

***TGaz Editor: Insert the following before 9.4.2.24 (RSNE)***

***9.4.2.20 Measurement Request Element***

*Modify the penultimate row of Table 9-100—Measurement type definitions for measurement requests and add a row above it as follows:*

|  |  |
| --- | --- |
| Neighboring PDMG/PEDMG APs | 17 |
| Reserved | 18-254 |

***TGaz Editor: Insert the following before 11.22***

**11.10.10.2 Requesting a neighbor report**

*Add the following at the end 11.10.10.2*

To request a list of neighboring APs that support PDMG/PEDMG location services, the STA shall transmit a Neighbor Report Request frame that includes a Neighbor PDMG/PEDMG APs field with Measurement Request element with the value of its Measurement Type field equal to Neighboring PDMG/PEDMG APs. The Neighbor Report Request frame shall include an SSID element with the SSID set to wildcard SSID.

*Add the following at the end 11.10.10.3*

An AP that has set the PDMG/PEDMG supporting APs information field to 1 in the Extended Capabilities element that receives a Neighbor Report Request frame that includes a Measurement Request element with value of its Measurement Type field equal to Neighboring PDMG/PEDMG APs, shall respond with a Neighbor Report Measurement frame with a list of DMG/EDMG APs supporting location services. Per each DMG/EDMG AP, the Neighbor Report element shall include a Measurement Report subelement with the Measurement Type field equal to Location Civic. If available to the sending AP, the Neighbor Report element shall include a TSF subelement.

**References:**

**[1] RevMD D2.0**

**[2] TGaz D0.5**