IEEE P802.11
Wireless LANs

|  |
| --- |
|  TGbd D2.0 Comment Resolution for Clause 4 related toNGV STA definition and 60 GHz operation |
| Date: 2021-9-13 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Hiroyuki Motozuka | Panasonic | 600 Saedo-cho, Tsuzuki-ku, Yokohama, Kanagawa, Japan |  | motozuka.hiroyuki@jp.panasonic.com |
| Takenori Sakamoto |  | sakamoto.takenori@jp.panasonic.com |
| Masataka Irie |  | irie.masataka@jp.panasonic.com |
| Kazu Takahashi |  | takahashi.kazu@jp.panasonic.com |
| Gaius Wee | 202 Bedok South Ave 1 Singapore 469332 |  | yaohuang.wee@sg.panasonic.com |
| Michael Sim |  | michael.simhc@sg.panasonic.com  |
| Stephan Sand | German Aerospace Center (DLR) |  |  | stephan.sand@dlr.de |

Abstract

This submission proposes resolution of two comments related to definition for DMG STA communicating OCB in Clause 4 on TGbd Draft 2.0

CIDs 2062, 2065

Revision history:

r0 initial

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 2062 | General |  | According to 4.3.17a, an NGV STA may operating in the 5.9 GHz or 60 GHz band. Elsewhere it seems there is an NGV STA that operates in the 5.9 GHz band and something called a "DMG STA with dot11OCBActivated" that operates in the 60 GHz band. This difference should be reconciled. | I would suggest that everything is just an NGV STA and the prefix the sections with "This subclause applies to a NGV STA operating in the 5.9 GHz band" or "This subclause applies to an NGV STA operating in the 60 GHz band" | **Revised**TGbd Editor to Incorporate the change in <https://mentor.ieee.org/802.11/dcn/21/11-21-nnnn-00-00bd-d2-0-cr-clause-4-related-to-ngv-sta-definition-and-60-ghz-operation.docx> for CID 2062.*Note to the Editor:**The same resolution as CID 2065.* |
| 2065 | 4.3.17a | 19.10 | From the normative text throughout the draft amendment, 60GHz operation is implemented, actually, by collocating a DMG STA with an NGV STA(5.9GHz). It may be mentioned within this general section for clarification of the architecture. | Submission will be provided. | **Revised**TGbd Editor to Incorporate the change in <https://mentor.ieee.org/802.11/dcn/21/11-21-nnnn-00-00bd-d2-0-cr-clause-4-related-to-ngv-sta-definition-and-60-ghz-operation.docx> for CID 2065.*Note to the Editor:**The same resolution as CID 2062.* |

**Discussion**

**We propose to have two distinct types of STAs defined by TGbd:**

1. **An NGV STA – operating in the 5.9 GHz band**
2. **A DMG STA communicating OCB – operating in the 60 GHz band**

**We believe this classification is consistent with all descriptions other than Clause 4 in 11bd Draft D2.0.**

**To implement above, we propose to change the title of subclause 4.3.17a to “Next Generation Vehicle-to-everything (V2X) (NGV) STA” in addition to text changes. This makes the subclause consistent with the other STA definitions in clause 4 of IEEE802.11-2020 (e.g. “4.3.15 Very high throughput (VHT) STA,” “4.3.22 DMG STA”)**

**Proposed changes to D2.0**

*TGbd Editor: Please add the following subclause to Draft 11bd:*

4.3.17 STA transmission of Data frames outside the context of a BSS

*Insert the following paragraph after the fourth paragraph (“Communication of Data frames ...”):*

A STA with dot11OCBActivated equal to true may operate as a DMG STA with the MAC and MLME functions defined in 31.3 (Operation in the 60 GHz band) in addition to the MAC functions defined in Clause 10 (MAC sublayer functional description) and the MLME functions defined in Clause 11 (MLME) for DMG or EDMG STAs. This kind of STA is referred to as a DMG STA communicating outside the context of a BSS (OCB).

4.3.17a Next Generation Vehicle-to-everything (V2X) (NGV) STA ~~transmission of Data frames outside the context of a BSS~~

*TGbd Editor: Please change the second paragraph as follows (P19L24 of 11bd D2.0):*

An NGV STA~~s may optionally operate~~ may be co-located with a DMG STA communicating outside the context of a BSS in the 60 GHz frequency band (57 GHz to 71 GHz) as defined in clause E.1.

*TGbd Editor: Please remove the last bullet of the list at P20L32 of 11bd D2.0:*

~~— Optional support for operating as DMG STA, when dot11OCBActivated is true, with the MAC and MLME functions defined in 31.3 (Operation in the 60 GHz band) in addition to the MAC functions defined in Clause 10 (MAC sublayer functional description) and the MLME functions defined in Clause 11 (MLME) for DMG or EDMG STAs.~~

*TGbd Editor: Please add the following subclause to Draft 11bd:*

4.3.22 DMG STA

*Change the 1st paragraph as follows:*

The IEEE 802.11 DMG STA provides PHY and MAC features that can support a throughput of 1 Gb/s and greater, as measured at the MAC data service access point (SAP). A DMG STA supports DMG features as identified in Clause 10, Clause 11, and Clause 20. Additionally, a DMG STA for which dot11OCBActivated is true supports features as identified in subclause 31.3. A DMG STA operates in a DMG BSS and supports transmission and reception of frames that are compliant with PHY specifications as defined in Clause 20. A DMG STA is also a QoS STA. The basic channel access of a DMG STA (see 10.39) allows it to operate in an Infrastructure BSS, in an IBSS, and in a PBSS. Certain DMG features such as service period allocation are available only to DMG STAs that are associated with an AP or with a PCP, while other DMG features such as EDCA operation in a PBSS and DMG STAs communicating outside the context of a BSS do not require association. A DMG STA supports beamforming (BF) as described in 10.42 and 20.9 and GCM encryption as described in 12.5.5.

*Change the 3rd paragraph (11ay) as follows:*

A DMG STA supports MAC features that provide channel access in an environment in which transmissions use a directional antenna pattern. The MAC entity of a DMG STA provides frame aggregation, block acknowledgement, service periods, contention based access periods, DMG protected period, AP or PCP clustering, dynamic channel time management (see 10.39.7, 10.39.8, and 10.39.9), reverse direction, spatial sharing, beamforming, discovery assistance, TDD channel access, ~~and~~ fast session transfer in a multi-band device, transmission of Data frames outside the context of a BSS (see 11.18), and DMG discovery outside the context of a BSS (see 11.1.4.8). A DMG STA is not a mesh STA. A DMG STA does not use any of the following: HCCA, power save multi-poll (PSMP), TDLS, GCR.

**References**

[1] Draft P802.11bd D2.0

[2] IEEE802.11-2020