IEEE P802.11
Wireless LANs

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| Comment Resolution D0.3 Section 4 (General Description) |
| Date: 2020-06-03 |
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Abstract

Comment Resolution for 802.11bd D0.3 Section 4 (General Description)

CID 32, 33, 34, 36, 215, 216, 217, 57, 72

Revision 0: 2020-06-03

Revision 1: posted with changes from the June 9 teleconference

Revision 2: added resolution to CID 57

Revision 3: added resolution to CID 72

**Comments:**

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 32 | 14.13 | 4.3.19a | Clause 4.3.19a includes criteria for a STA to be an NGV STA. One criterion is that dot11OCBActivted is true, which is a dynamic state. That implies that a given STA might dynamically switch between being an NGV STA and not being an NGV STA. I would expect instead that a STA is always either an NGV STA or not, and that the criteria are based on capabilities and not whether those capabilities are active. | change "for which dot11OCBActivated is true" to "that is capable of operating with dot11OCBActivated true". Also (editorially), change "supports 10 MHz" to "that supports 10 MHz" | Revise. Clause 4 is for general description. Specific criterion to be an NGV STA will be defined in clause 31 and 32. See changes in 11-20/0728r3 |
| 33 | 14.13 | 4.3.19a | The criteria for a STA being an NGV STA should include not only the capability to operate with dot11OCBActivated equal true, but also the capability to operate with dot11NGVActivated equal true. This latter activtation state is utilized in Clause 5. | In the first sentence, change "that is capable of operating with dot11OCBActivated true" to "that is capable of operating with both dot11OCBActivated and dot11NGVActivated true" | Revise. Clause 4 is for general description. Specific criterion to be an NGV STA will be defined in clause 31 and 32. See changes in 11-20/0728r3 |
| 34 | 14.13 | 4.3.19a | An NGV STA should not be required to have both a 10 MHz and a 20 MHz channel spacing capability. Support of 20 MHz channel spacing should be optional. | change "and 20 MHz" to "and optionally 20 MHz" | Revise. Clause 4 is for general description. Specific criterion to be an NGV STA will be defined in clause 31 and 32. See changes in 11-20/0728r3 |
| 215 | 14.13 | 4.3.19a | dot11OCBActivated should be defined in 32.3 (PHY MIB) with NGV PHY MIB attributes | make a table called NGV PHY MIB attributes and define it | Rejected: dot11OCBActivated is already defined in the baseline. |
| 36 | 14.15 | 4.3.19a | The criteria for a STA being an NGV STA state that it "supports NGV features" in Clause 31 and 32. Those clauses will specify more multiple features. TGbd should clearly define which features are a minimum set in order for a STA to be defined as an NGV STA. One approach is to define a minimum set as being "at least one feature". I am open to other definitions, i.e. to support of larger sets of features being required in order to be an NGV STA. | change "and supports NGV features" to "and supports at least one NGV feature". | Revise. Clause 4 is for general description. Specific criterion to be an NGV STA will be defined in clause 31 and 32. See changes in 11-20/0728r3 |
| 216 | 14.20 | 4.3.19a | fill TBD | as in comment | Accepted, added list of main PHY features per 11-20/0728r3 |
| 217 | 14.24 | 4.3.19a | fill TBD | as in comment | Accepted, added list of main MAC features per 11-20/0728r3 |
| 57 | 14.10 | 4.3.19a | Clause 4 should not define what a NGV STA is but should introduce the features and capabilities that are being provided by the NGV amendment. | as in comment | Revise. Clause 4 is for general description. Specific criterion to be an NGV STA will be defined in clause 31 and 32. See changes in 11-20/0728r0 |
| 72 | 22.10 | 31.1 | A definition for NGV STA should be added to 3.2 | as in comment | Revise, add definition as shown in 11/20-0728r3 |

**3. Definitions, acronyms, and abbreviations**

**3.2 Definitions specific to IEEE Std 802.11**

*Insert the definition in alphabetical order as follows:*

Next Generation Vehicular (NGV) station (STA): A STA that supports the NGV MAC as defined in clause 31 and NGV PHY defined in clause 32.

...

**4. General description**

**4.3 Components of the IEEE Std 802.11 architecture**

*Insert a new subclause after subclause 4.3.19 (STA transmission of Data frames outside the context of a BSS) as follows:*

**4.3.19a Next Generation V2X (NGV) STA**

The IEEE 802.11 NGV STA is a STA ~~for which dot11OCBActivated is true, supports 10 MHz and 20 MHz channel spacing as defined in Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY specification), and~~ that supports NGV features as identified in Clause 31 (Next Generation V2X (NGV) MAC specification) and Clause 32 (Next Generation V2X (NGV) PHY specification).

NGV STAs are typically used in vehicular environments to transmit and recieve broadcast and unicast data frames while operating outside the context of a BSS (OCB).

The main PHY features of an NGV STA are the following:

* ~~TBD~~
* New 10 MHz and 20 MHz PPDU formats
	+ LDPC coding for improved reliability
	+ Midambles for improved reliability and range in fast changing RF environments
	+ Improved spectral mask C2 for 20MHz to reduce adjacent channel interference
	+ 256 QAM for higher data rates
* NGV stations also support clause 17 PPDU formats
* Optionally, multiple spatial streams (SU-MIMO)

The main MAC features of an NGV STA are the following:

* ~~TBD~~
* 10 MHz and 20 MHz communication outside the context of a BSS (OCB)
* Optionally, operation outside the context of a BSS in the 60 GHz band
* New 20 MHz channel access mechanism to improve coexistence with 10 MHz
* Same channel coexistence with stations communicating in OCB mode that are not NGV capable
* Frame Aggregation to improve efficiency
* Improvements to the MAC Service definition for IEEE 1609 [B17] and other upper layer protocols to efficiently use the radio.