IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resolutions for Misellaneous PHY Comments for 11bd Initial SA Ballot | | | | |
| Date: 2022-06-07 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | Email |
| Rui Cao | NXP | 350 Holger Way, San Jose,CA |  | [rui.cao\_2@nxp.com](mailto:rui.cao_2@nxp.com) |

Abstract

This submission proposes resolutions for the following eight comments received on several PHY subclauses for 802.11bd initial SA ballot:

* 5025, 5030, 5031, 5032, 5033, 5045, 5065, 5066, 5079

Revisions:

* r0: initial version
* r1: update resolution to CID 5025

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 5045 |  | 0.00 | Even though NUM\_SS > 1 is optional, it may be preferred to compete the rival technology like C-V2X. It is not clear if it must be initiated by the higher layer via the number of spatial streams in the radio environment request vector. Another optional feature NGV ranging, it has an informative subclause to show how to start it. | Suggest adding a subclause to show how SU\_MIMO may be initiated even though it is an optional feature. | Rejected  The text for “radio environment request” in paragraph starting P24L26 clearly indicates that how number of spatial stream is set depending on different settings of member values of “PPDU format” and “number of spatial stream”.  “The number of spatial streams member with value 1 or 2 indicates the number of spatial streams being used to transmit the PPDU carrying the MSDU. The number of spatial streams member with value 0 means that the number of spatial streams is decided by the MAC layer. If the PPDU format has value 2, the data rate/NGV-MCS member is set to value 14 indicating that the actual data-rate/MCS is decided by the MAC layer.” |
| 5079 | 32.1.1 | 69.51 | The NON\_NGV\_10 PPDU is required for backward compatibility as indicated on P20L10. | Add NON\_NGV\_10 PPDU to the "shall support" list. | Revised  Agree with the comment to specify it in the PHY subclause.  TGbd editor: please make the changes as in <https://mentor.ieee.org/802.11/dcn/22/11-22-0870-00-00bd-resolutions-for-misellaneous-phy-comments-for-11bd-initial-sa-ballot.docx> |

*Discussions:*

In 802.11REVme 1.2, the definition of HT STA, VHT STA and etc. in Subclause 4.3 also includes one statement to clearly specify that the STA also supports transmission and reception of PPDUs defined in preceding amendments.





*TGbd editor: please make the following changes in P19L49 of 11bd D4.0:*

An NGV STA supports interoperability, coexistence, backward compatibility, and fairness in contending for the medium with non-NGV STAs when operating OCB in the 5.9 GHz band. An NGV STA is also a non-NGV STA that supports transmission and reception of non-NGV PHY PPDUs when operating OCB in the 5.9 GHz band.

*TGbd editor: please make the following changes in P69L41 of 11bd D4.0:*

An NGV PHY shall support the following features:

— Single spatial stream

— NGV-MCS 0 to 9 and NGV-MCS 15

— Three LTF formats: NGV-LTF-1x, NGV-LTF-2x, and NGV-LTF-2x-Repeat

— LDPC coding (transmit and receive)

— Midamble periodicity of 4, 8, 16 OFDM symbols

— 10 MHz NGV PPDU

— NON\_NGV\_10 PPDU and repetitive NON\_NGV\_10 PPDU

— Spectrum mask for power Class C requirement for 10 MHz NGV PPDU

— Spectrum mask C2 for power Class C requirement for 20 MHz NGV PPDU, if 20 MHz NGV PPDU is supported

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 5033 | 32.3.4.5 | 85.05 | In step d), the total number of interleaved bits should be 48 instead of 24. | Change the sentence to "Constellation Mapper: BPSK modulate the 48 interleaved bits as described in Clause 17.3.5.8 (Subcarrier modulation mapping) to form the NGV-SIG symbol." | Accepted |
| 5066 | 32.3.4.5 | 85.05 | "… 24 interleaved bits…" should be "48 interleaved encoded bits…" | As in comment | Accepted  The same comment as CID5033. No change is needed. |
| 5032 | 32.3.7.2 | 88.42 | The first paragraph should be describing non-NGV PPDU format, instead of NGV PPDU | Change the paragraph to "For a 10 MHz non-NGV PPDU, the signal is transmitted on subcarriers –26 to –1 and 1 to 26, with 0 being the center (DC) subcarrier. See 17.3.2.6 (Discrete time implementation considerations)." | Accepted |
| 5065 | 32.3.7.2 | 88.42 | Firstly, change "a 10 MHz NGV PPDU" to "a NON\_NGV\_10 PPDU." Then, for an NGV PPDU 10 MHz or 20 MHz in the subsequent paragraphs, need to separate pre-NGV modulated fields and NGV modulated fields to discuss the subcarrier usage. | As in comment | Revised  The first part of the comment is the same as CID5032. No further change is needed.  For the second part of the comment on 10MHz and 20MHz NGV PPDU, there is no need to separate pre-NGV modulated fields and NGV modulated fields. This subclause only specifies the lower and upper bound of the modulated tones in the entire PPDU. Different fields will have different loaded tones described in each corresponding subclauses. It is not practical to list all details in this subclause. Similar text style is also used in other PHY subclauses. |
| 5030 | 32.3.8.10 | 99.37 | As NGV-LTF-2x-Repeat is only defined for 10MHz Nss1 MCS15 transmission, suggest to change the condition from "… if the NGV Data field …" to "if and only if the NGV Data field ...". | as in the comment. | Accepted |
| 5025 | D.2.3 | 145.36 | The subject of "complying" is ambiguous -- is the STA or the channel spacing the thing that must comply? Replacing "complying" with "that complies" would make it clear that it is the channel spacing that shall comply with the power class specification. | Replace "complying" with "that complies". Same change is necessary on line 41. | Revised  Agree with the commenter that the word “complying with” is not accurate. The issue has been resolved in the resolution to CID 5038, where the phrase “complying with” is deleted as in <https://mentor.ieee.org/802.11/dcn/22/11-22-0827-05-00bd-resolutions-to-clause-4-3-17-and-4-3-17a-cids.docx>  No further changes are needed. |