IEEE P802.11  
Wireless LANs

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| Comment Resolution Subclause 31.2.1 | | | | |
| Date: 2020-08-12 | | | | |
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Abstract

This submission resolve the following comments for subclause 31.2.1 of 802.11bd D0.3:

* 1, 45, 76, 77, 78, 79, 80, 81, 92, 94,
* 95, 207, 208, 209, 228, 231

Revisions:

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGax Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify existing material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

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| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1 | 22 | 28 | 11p STA is undefined. However, In 32.2.5 there is mention of non-NGV format, which is basically our legacy 11p transmission. In 32.2.5.2 non-NGV format is Clause 17 PHY with the changes listed in 32.2.5.2 | Change the title of subclause to "coexistence with legacy STAs operating in the band" and a. Change all instances of "an 11p PPDU" to " Non-NGV format as defined in 32.2.5.2" and b. Change all instances of "in 11p PDDU" to "in non-NGV format as defined in 32.2.5.2" | Revised.  Generally agree with the commenter. 11p STA is undefined. It will be replaced by non-NGV STA. And the non-NGV STA definition is added in subclause 3.  TGbd editor to make changes in 11-20/1227r1 under CID 1 |
| 45 | 22 | 28 | "31.2.1 Coexistence with 11p STAs" shows the problem in the amendment. "11p" is an internal usage designation of a set of features, but that is not how it is called out in the base standard. I know as 802.11 standards folks we know what we mean by "11p" but that is not appropriate. | Change the title "31.2.1 Coexistence with 11p STAs" to appropriately call out the feature set desired. Also throughout the amendment, remove "11p" and replace with the proper moniker. | Revised.  Generally agree with the commenter. 11p STA is undefined. It will be replaced by non-NGV STA. And the non-NGV STA definition is added in subclause 3.  TGbd editor to make changes in 11-20/1227r1 under CID 45 |
| 76 | 22 | 31 | There is no such thing as an 11p PPDU in 802.11, this needs to be described using terms that in the standard. Suggest PPDU transmitted in the 5.9 GHz band. | As in comment | Revised.  Generally agree with the commenter. 11p PPDU will be replaced by non-NGV PPDU And the non-NGV PPDU definition is added in subclause 3.  TGbd editor to make changes in 11-20/1227r1 under CID 76 |
| 77 | 22 | 32 | This requirement is not well stated. The requirement should state that: When a NGV STA receives an individually addressed Management frame with Duration field of 0, the STA will transmit an ACK frame with the Duration/ID field set to 2. In addition these requirements need some context. | As in comment | Revised  The Duration/ID field of the soliciting unicast Data/Mnagement frame shouldn’t be 0 since the value should cover the responding Ack. The context is added.  TGbd editor to make changes in 11-20/1227r1 under CID 77. |
| 78 | 22 | 33 | This requirement is not well stated. The requirement should state that: When a NGV STA transmits an individually addressed OoS Data frame the Duration field of shall be set to the sum of 4 and the value which is calculated per Primary Rate. | As in comment | Revised  See CID 208 |
| 79 | 22 | 38 | This requirement is not well stated. The requirement should be: An NGV STA shall set the Duration/ID field to 6 in all group-addressed frames transmitted in the 5.9 GHz band. | As in comment | Revised  See CID 208 |
| 80 | 22 | 31 | It would probably be better to set up a table indicating what the Duration/ID field value is for the various frames an NGV STA can transmit. This would change these 3 requirements to be a single shall. Which could be as follows: NGV STAs shall set the Duration/ID field for transmission in the 5.9 GHz band as indicated in table x.x.x. Table x.x.x would have two columns: Transmission and Duration/ID field value  ACK in response to a individual0addressed Management frame, Duration/ID field: 2  Individual-addressed QoS Data frame, Duration/ID field:4+Primary Rate.  Group-addressed frame , Duration/ID field: 6 | As in comment | Revised  Since only two pecific Duration values are used for indicating NGV support of the transmitter of the PPDU, it is not necessary to have a table. See 208 for discussing the usageof two specific Duration values. |
| 81 | 22 | 42 | Why do I care if an NGV STA can or cannot determine that the transmitter is an NGV capable STA or not? Why is this stated in the specification? There needs to be a defined action that may or shall happen if the STA receives a transmission from a NGV capable STA, none is stated. Hence this statement should be removed and a requirement added at the appropriate location. | Delete: "An NGV STA determines that the transmitter of an OFDM PPDU is an NGV capable STA if one of the following conditions is true: - an Ack frame in 11p PPDU is detected whose Duration/ID field has value 2. - an individual-addressed frame in 11p PPDU is detected whose Duration/ID field is equal to the sum of 4 and the value which is calculated per Primary Rate for Ack frame. - a group-addressed frame in 11p PPDU is detected whose Duration/ID field has value 6." | Revised  When a NGV STA detects a 11p neighbour, it can’t transmit the group-addressed frames in NGV PPDU. The chance to use the improvement introduced by NGV PPDU (long range, robustness, higher rate) become lower. Sometimes a NGV STA needs to transmit 11p PPDU. With the proposed methods, a NGV STA can differentiate whether the transmitter of a 11p PPDU is actually a NGV STA.  TGbd editor to make changes in 11-20/1227r1 under CID 81 |
| 92 | 22 | 35 | The definition of 11p PPDU seems to be missing. I cannot find one in REVmd D3.0. | Add a definition of 11p PPDU in clause 3 | Revised.  Generally agree with the commenter. 11p PPDU will be replaced by non-NGV PPDU And the non-NGV PPDU definition is added in subclause 3.  TGbd editor to make changes in 11-20/1227r1 under CID 92 |
| 94 | 22 | 36 | The definition of "Primary Rate" missing. | Add a definition of the Primary Rate | Revised.  see CID 207  TGbd editor to make changes in 11-20/1227r1 under CID 94 |
| 95 | 22 | 36 | It is not clear how the Duration field of the QoS Data frame is set based on the following: "the sum of 4 and the value which is calculated per Primary Rate for the Ack frame". The sentence should have how "the value" is calculated. | As shown in the comment. | Revised.  see CID 207  TGbd editor to make changes in 11-20/1227r1 under CID 95 |
| 207 | 22 | 46 | "an individual-addressed frame in 11p PPDU is detected whose Duration/ID field is equal to the sum of 4 and the value which is calculated per Primary Rate for Ack frame." How is the Primary Rate for Ack frame determined? The baseline spec only says that the mandatory rate set is used for the Management and Data frames. "Only the data transfer rates of the mandatory rate set of the attached PHY are guaranteed to be supported when a STA for which dot11OCBActivated is true transmits a Management or Data frame." | As in comment. | Revised.  Agree with the commenter. Since the soliciting frame will always use the mandatory rate. The primary rate is not needed for deciding the Tx time of the responding frame.  TGbd editor to make changes in 11-20/1227r1 under CID 207 |
| 208 | 22 | 39 | "When an NGV STA transmits a group-addressed frame in 11p PPDU, the Duration/ID field in the group addressed frame shall be set to 6." A group addressed frame also does not solicit a response frame. So, the situation is almost same with the following: "When an NGV STA transmits an Ack solicited by an individual-addressed Management frame in an 11p PPDU and the Duration field value acquired per Clause 9.2.5.7 (Setting for control response frames) is 0, the Duration/ID field in the ACK frame shall be set to 2." What is a technical benifit to have different Duration/ID field values for the Ack frame and the group-addressed frame? At this moment, I don't see any techncial reason. Please simplify by unifying the rules as the following: "When an NGV STA transmits a group-addressed frame in 11p PPDU, the Duration/ID field in the group addressed frame shall be set to 2." | As in comment. | Revised.  There is no harm to use Duration value 2 to indicate the transmitter of a 11p PPDU with group-addressed frame in NGV STA. This can decrease the number of the specific Duration value for indicating the NGV transmitter.  TGbd editor to make changes in 11-20/1227r1 under CID 208  . |
| 209 | 22 | 35 | "When an NGV STA transmits an individual-addressed QoS Data frame in an 11p PPDU, the Duration field of the QoS Data frame shall be set to the sum of 4 and the value which is calculated per Primary Rate for the Ack frame." How is 4us decided? Three magic numbers (e.g., 2us, 4us, and 6us) are used to determine whether the STA is the NGV capable or not. But, basically, I think that one magic number is enough. Please change as the following to simplify the rule. Otherwise, please provide some NOTE why three magic numbers are required. "When an NGV STA transmits an individual-addressed QoS Data frame in an 11p PPDU, the Duration field of the QoS Data frame shall be set to the sum of 2 and the value which is calculated per Primary Rate for the Ack frame." | As in comment. | Rejected  One specific duration value is not enough. A 11p STA can transmit 11p PPDU with uniast data frame to a NGV STA. A NGV STA can transmit 11p PPDY with data frame to 11p STA. The Duration is Ack of these two cases should be different so that a NGV neighbour STA that can only detect the responding PPDU can figure out whether the transmitter of the Ack is 11p STA or NGV STA. |
| 228 | 22 | 26 | fill TBD | as in comment | Revised  TGbd editor to make changes in 11-20/1227r1 under CID 228 |
| 231 | 22 | 35 | Is the Duration field or Duration/ID field? at line 46 at the same page, it shows Duration/ID field. the field name should be the same. | Use the same term consistently. | Revised  TGbd editor to make changes in 11-20/1227r1 under CID 231 |

**3.2 Definitions specific to IEEE 802.11**

***TGbd editor: add the following definition in subclause 3.2:***

Non-NGV PPDU: A PPDU with 10MHz width that is transmitted outside the context of a BSS (OCB) in 5.9 GHz band and that is not NGV PPDU. (#1, 45, 76, 92)

Non-NGV STA: A STA that may transmit or receive non-NGV PPDUs and that is not able to transmit NGV PPDUs. (#1, 45, 76)

**31.2 Operation in 5.9 GHz band**

***TGbd editor: change sbclause 31.2 as follows:***

**(#228)**

***TGbd editor: change sbclause 31.2.1 as follows:***

**31.2.1 Coexistence with Non-NGV STAs (#1, #45, #76)**

In order to give a NGV STA more chances to use NGV PPDUs, the non-NGV PPDU needs to carry the indication about whether it is transmitted by a NGV STA or not. Such indication is carried in Duration/ID field of MAC header. (#77, #78. #81)

When an NGV STA transmits an Ack solicited by an individual-addressed Management or QoS Data frame in an non-NGV PPDU and the Duration field value acquired per Clause 9.2.5.7 (Setting for control response frames) is 0, the

Duration/ID field in the ACK frame shall be set to 2. When an NGV STA transmits an individual-addressed Management or QoS Data frame in an non-NGV PPDU, the Duration/ID field of the Management/QoS Data frame shall be set to the sum of 4 and the transmission time of the responding Ack frame as defined in 10.6. (#1,45, 76, 231, 94, 95, 207)

When an NGV STA transmits a group-addressed frame in non-NGV PPDU, the Duration/ID field in the group addressed frame shall be set to 2.(# 92, 208)

(#92)An NGV STA determines that the transmitter of an OFDM PPDU is an NGV capable STA if one of the following

conditions is true:

– an Ack frame in non-NGV PPDU is detected whose Duration/ID field has value 2.

– an individual-addressed frame in non-NGV PPDU is detected whose Duration/ID field is equal to the sum

of 4 and the value which is calculated per Primary Rate for Ack frame.

– a group-addressed frame in non-NGV PPDU is detected whose Duration/ID field has value 2. (#208)