IEEE P802.11
Wireless LANs

|  |
| --- |
| Comment Resolution subclause 31.2.1 |
| Date: 2021-03-10 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Liwen Chu | NXP |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission resolve the following comments for subclause 31.2.1 of 802.11bd D1.0:

* 1020, 1131, 1132, 1135, 1167, 1182, 1416, 1417, 1419, 1421,1435, 1483, 1484, 1485, 1721

Revisions:

 R3: address the deferred CID 1167, 1417, 1485

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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 1020 | 37 | 37 | It is not clear why the Duration/ID field in these frames is set to these static values. What is wrong with following baseline duration/ID field setting? | Revert to baseline Duration/ID field setting rules. | RevisedDiscussion: a NGV STA needs to figure out whether there are non-NGV neighbor STAs for deciding the PPDU being used. However this can’t be acquired through the PPDU type being received from the neighboring STAs, e.g. a NGV STA most likely use 11p PPDU to transmit group addressed frames, and uses 11p PPDU to transmit the responding frame if the soliciting STA is non-NGV STA. The Duration field is used to assist the decision of whether the transmitter of the PPDU is a non-NGV STA. TGbd editor to make changes in 11-21/0439r0 under CID 1020 |
| 1131 | 37 | 37 | The correct use of "individual-addressed" is "individually addressed" | change "individual-addressed" to "individually addressed" throughout the draft. 3 instances. | Accepted |
| 1132 | 37 | 45 | The correct use of "group-addressed" is "group addressed". | change "group-addressed" to "group addressed" throughout the draft. 3 instances. | Accepted |
| 1135 | 37 | 54 | It is unclear what the statement "the value which is calculated per Primary Rate for Ack frame" means. | Specify how the value is calculated. | RejectedDiscussion: the primary rate is decided by the rules defined in subclause about Multirate Support. The reason for using primary rate in 802.11baseline is that the TXOP holder can totally control the TXOP time usage since the TXOP holder can figure out the transmitting time of responding PPDU. |
| 1167 | 37 | 30 | The PAR requires "fairness with deployed OCB (Outside the Context of a BSS) devices;" there was discussion in 802.11bd about maintaining fairness in a mixed environment of 802.11p (non-NGV) and NGV devices that would change the behavior of NGV in congestion. This fairness discussion is not addressed in the D1.0 draft. | Add text to describe how 802.11bd maintains fairness when operating in a mixed 802.11p/802.11bd environment; in particular, describe the behavior of an NGV STA when in proximity of 802.11p STAs. | RevisedDiscussion: the same backoff procedure, EDCA parameters are used by NGV STAs and non-NGV STAs through which the fairness is guaranteed. the coexistence of NGV STA and 11p STA requires that if there are neighboring 11p STAs, a NGV STA needs to use the 11p PDU to send broadcast frames. Otherwise a NGV PPDU may be used to transmit broadcst frames. Another observation is that the responding PPDU should be in 11p PPDU if the transmitter of the responding PPDU has 11p neighboe STAs. This subclause gives the methods to figure out whether there are 11p neighbors.TGbd editor to make changes in 11-21/0439r0 under CID 1167 |
| 1182 | 37 | 50 | the context of the condition is not clear. | Change "is true" to "is true of the OFDM PPDU" | Revised.TGbd editor to make changes in 11-21/0439r0 under CID 1182 |
| 1416 | 37 | 38 | "the Duration field value acquired per" is not clear | Change to "the Duration field value specfied by" | Accepted |
| 1417 | 37 | 39 | " When an NGV STA transmitsan individual-addressed Management or QoS Data frame in a non-NGV PPDU, the Duration/ID field of theManagement or QoS Data frame shall be set to the sum of 4 and the transmission time of the responding Ackframe as defined in Clause 10.6 (Multirate support)." implies that NGV always uses single protection, or that you cannot have more than one PPDU in each direction in a TXOP, but this is not specified anywhere, I think | As it says in the comment | RevisedDiscussion: when ultiple frames are transmitted in a TXOP, the last frame will follow the rules here.TGbd wditor to make changes in 11-21/1417r3 under CID 1417. |
| 1419 | 37 |  | Frames aren't "detected", they're received (or not) | Change "is detected" to "is received" (3x) | Revised TGbd editor to make changes in 11-21/0439r0 under CID 1419 |
| 1421 | 37 | 54 | "the value which is calculated per Primary Rate for Ack frame" is gobbledygook | Change to "the transmission time of the responding Ackframe as defined in Clause 10.6 (Multirate support)" | RevisedTGbd editor to make changes in 11-21/0439r0 under CID 1421 |
| 1435 | 37 |  | This subclause is all about "Ack frame"s, but given 31.2.3 there might also be BlockAck frames sent in response to (an) MPDU(s) | Change "Ack frame" to "Ack or BlockAck frame" throughout | RevisedTGbd editor to make changes in 11-21/0439r0 under CID 1435 |
| 1483 | 37 | 38 | language improvement | change "acquired" to "assigned", change "shall be set to" to "shall be reassigned to" | RevisedSee the change per comment 1416 |
| 1484 | 37 | 41 | Missing term - the suggested DUR field value is given as ACKtime + 4 - is this value neglecting the SIFS time? Because this is a coexistence subclause, I wonder if the value should somehow reflect the SIFS, as would legacy STAs DUR field values. | It is unclear whether the indicated value is correct and what the correct value would be if it is incorrect. | RevisedDiscussion: SIFS should be added to the Duration value.TGbd editor to make changes in 11-21/0439r0 under CID 1484 |
| 1485 | 37 | 51 | wording changes | change "in non-NGV" to "in a non-NGV", change "is detected" to "is received" (in 3 places), change "has value 2" to "is equal to 2" (in 2 places), change "Primary" to "the Primary" | Accepted |
| 1751 | 37 |  | From the sentence starting with "When an NGV STA transmits an individual-addressed ..." in the second paragraph, an initiator NGV STA can only transmit a single MPDU (or a single A-MPDU from 9.7?) in a TXOP. This is different from the rule for TXOP limit 0 case, as it allows to transmit a single MSDU and the MSDU can be fragmented.What is the merit of limiting the transmission to such extent and determining the transmitter if it is an NGV STA? It seems to be minimal. And non-NGV STAs will have disadvantage.Furthermore, when an NGV STA transmits an individual-addressed Management or QoS Data frame in a non-NGV PPDU to another NGV STA, the responder NGV STA will transmit an Ack frame with the Duration/ID field set to 4, following 9.2.5.7. It will be the same Duration/ID field with a non-NGV STA transmitting an Ack frame and the transimtter of the Management/QoS Data frame cannot distinguish the responder STA is capable of NGV. And how to set the Duration/ID field for BlockAck frame is not described. So, this mechanism seems to not work. | Delete 31.2.1. Delete the insertion in 9.2.5.1 and follow 9.2.5.2. | RejectedDiscussion: The reason to identify the neighbor non-NGV STA is that a NGV STA may select different PPDU formats for its PPDUs based on whether there are neighbor non-NGV STAs or not.  |

**31.2 Operation in 5.9 GHz band**

**31.2.1 Coexistence with non-NGV STAs**

In order to enable efficient coexistence policies, the non-NGV PPDUs transmitted by NGV STAs carry an

indication that informs the receiving NGV STAs that the transmitter is an NGV STA. Such indication is carried in Duration/ID field of the MAC header.

(#1167)NOTE: a NGV STA with neighboring non-NGV STAs is recommended to use 11p PPDU to transmit responding PPDU for efficient coexistence. A NGV STA with neighboring non-NGV STAs is recommended to use 11p PPDU to transmit group addressed frames.

When an NGV STA transmits an Ack frame solicited by an individual-addressed Management or QoS Data

frame in a 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 a non-NGV PPDU as the last frame of a TXOP (#1417), the Duration/ID field of the

Management or QoS Data frame shall be set to the sum of 4, SIFS, and the transmission time of the responding Ack frame as defined in Clause 10.6 (Multirate support). (#1484)

(#1020)NOTE: a NGV STA can transmit either non-NGV PPDU or NGV PPDU. With the help of specific value in the Duration field carried in the received PPDU, a NGV STA can figure out whether the transmitter of the received non-NGV PPDU is non-NGV STA or not.

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.

(#1182, 1419, 1421, 1435) An NGV STA determines that the transmitter of an received non-NGV PPDU is an NGV capable STA if one of the following conditions is true:

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

– an individual-addressed frame in non-NGV PPDU is received whose Duration/ID field is equal to the sum of 4, SIFS, and the transmission time of the responding Ack or BlockAck frame as defined in Clause 10.6 (Multirate support).

– a group-addressed frame in non-NGV PPDU is received whose Duration/ID field has value 2.