IEEE P802.11
Wireless LANs

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| Clause 31.2.3 comment resolution for LB-254 |
| Date: 2021-10-26 |
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Abstract

This document provides proposed comment resolutions for clause 31.2.3 CIDs submitted in response to the 802.11 TGbd D2.0 WG letter ballot #254. CIDs: 2001, 2002, 2161, and 2162.

r1: As modified during the TGbd teleconference on 2021-08-17.

r2: Updated based on discussion during the TGbd teleconference on 2021-10-19

The comments are available in: <https://mentor.ieee.org/802.11/dcn/21/11-21-1296-00-00bd-tgbd-lb254-comments.xlsx>.

Status: Highlighting in CID column indicates the status of the discussion on the CID:

Not Discussed (not highlighted)

Discussed additional discussion required (date of discussion(s) is(are) located below CID number)

Discussed / ready for SP (date of discussion(s) is(are) located below CID number)

SP run / ready for Motion (date of the SP is located below the date of discussion)

Motioned (date of Motion is located below the date of the SP)

Resolution Status: Highlighting in the Resolution column indicates:

Yellow highlighted text needs to be discussed

Red highlighted text has been discussed and additional discussion is required

**CIDs for Clause 31.2.3, Page 57, lines 40 and 65:**

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Comment** | **Proposed Change** | **Resolution** |
| 2001 | The maximum PPDU duration for 11bd is doubled from 5.484 ms to 10.968 ms, need to update all entries for "Maximum NGV MPDU length" that do not reach the 7991 limit. | As in the comment. | Revised – Agreed in principle with the commenter. The maximum PPDU duration for 802.11bd is 10 968 microseconds. Therefore Table 31-1 needs to be updated to increase some of the entries to be consistent with allowed maximum PPDU duration. A redlined updated table is provided in 11-21/1372r2. Also, the note following the table has been edited Previous discussion: Option 1:Rejected - Table 31-1 provides the maximum MPDU length for a maximum PPDU duration of 5 484 µs, as described in the note at the bottom of the table. Therefore, the values should not be updated to consider the doubled duration.Note to the editor: please ensure that the Note following Table 31-1 is formatted so that it is clear the note refers to the table. Option2:Revised – Agreed in principle with the commenter. The maximum PPDU duration for 802.11bd is 10 968 microseconds. Therefore Table 31-1 needs to be updated to increase some of the entries to be consistent with allowed maximum PPDU duration. A redlined updated table is provided in 11-21/1372r1. Also, the note following the table needs to be updated to state: “NOTE—The maximum MPDU length corresponds to a maximum PPDU duration of 10 968 μs. |
| 2002 | MCS10 has been re-index to MCS15 in PHY. Need to update accordingly. | As in the comment. | Agreed |
| 2161 | In Table 31-1 the last row shows value "10" for NGV-MCS, but in clause 32.5 NGV-MCS Index "10" is always reserved. It should be NGV MCS index "15". Replace "10" with "15" | as in comment | Agreed |
| 2162 | In Table 31-1 in the last row shows value "N/A" for NGV-MCS Index "10" (Clause 32.5 NGV-MCS Index 15) and 2SS with 10 or 20 MHz, but in Clause 32.5 values are applicable. Hence, replace "N/A" in the column "2SS 10 MHz" with 2262 and in the column "2SS 20 MHz" with 4524. | as in comment | Revised – In the last row (Index 15) replace "N/A" in the column "2SS 10 MHz" with 4524 and in the column "2SS 20 MHz" with 7991. A redlined updated table is provided in 11-21/1372r2.Previous discussion: If CID 2001 resolution option 1 is accepted: AgreedIf CID 2001 resolution option 2 is accepted:Revised – In the last row (Index 15) replace "N/A" in the column "2SS 10 MHz" with 4524 and in the column "2SS 20 MHz" with 7991. A redlined updated table is provided in 11-21/1372r1. |

Discussion in the TGbd 2021-08-17 teleconference discussed the maximum PPDU duration. For 802.11bd as shown in Table 9-25 the maximum PPDU duration for NGV PPDU is 10 968 (microseconds), however the Table 31-1 is for a maximum MPDU length corresponding to a maximum PPDU duration of 5 484 μs. There was some concern expressed regarding that even though the maximum NGV PPDU is 10 968 μs that regulation in some areas may restrict the maximum NGV PPDU to 5 484 μs and therefore the table should provide the maximum NGV MPDU length based on a maximum NGV PPDU duration of 5 484 μs, even though the specification allows for a longer maximum NGV PPDU duration of 10 968 μs. This topic is for further discussion. Below are two red line resolutions of these CIDs:

* Option 1 assumes that the table will provide the maximum NGV MPDU length base on a maximum NGV PPDU duration of 5 484 μs.
* Option 2 assumes that the table will provide the maximum NGV MPDU length base on a maximum NGV PPDU duration of 10 968 μs.

Option 1: Redlined changes with NGV MPDU length base on a maximum NGV PPDU duration of 5 484 μs:

**Table 31-1—Maximum NGV MPDU length**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NGV-MCS** | **1SS 10 MHz****(octets)** | **2SS 10 MHz****(octets)** | **1SS 20 MHz****(octets)** | **2SS 20 MHz****(octets)** |
| 0 | 2262 | 4524 | 4524 | 7991 |
| 1 | 4455 | 7991 | 7991 | 7991 |
| 2 | 6717 | 7991 | 7991 | 7991 |
| 3 | 7991 | 7991 | 7991 | 7991 |
| 4 | 7991 | 7991 | 7991 | 7991 |
| 5 | 7991 | 7991 | 7991 | 7991 |
| 6  | 7991 | 7991 | 7991 | 7991 |
| 7 | 7991 | 7991 | 7991 | 7991 |
| 8  | 7991 | 7991 | 7991 | 7991 |
| 9  | N/A | N/A | 7991 | 7991 |
| 15 (2002, 2161)  | 1096 | 2262 (2162) | 2193 | 4524 (2162) |

NOTE—The maximum MPDU length corresponds to a maximum PPDU duration of 5 484 μs.

Option 2: Redlined changes with NGV MPDU length base on a maximum NGV PPDU duration of 10 968 μs:

**Table 31-1—Maximum NGV MPDU length**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NGV-MCS** | **1SS 10 MHz****(octets)** | **2SS 10 MHz****(octets)** | **1SS 20 MHz****(octets)** | **2SS 20 MHz****(octets)** |
| 0 | 4524 (2001) | 7991 (2001) | 7991 (2001) | 7991 |
| 1 | 7991 (2001) | 7991 | 7991 | 7991 |
| 2 | 7991 (2001) | 7991 | 7991 | 7991 |
| 3 | 7991 | 7991 | 7991 | 7991 |
| 4 | 7991 | 7991 | 7991 | 7991 |
| 5 | 7991 | 7991 | 7991 | 7991 |
| 6  | 7991 | 7991 | 7991 | 7991 |
| 7 | 7991 | 7991 | 7991 | 7991 |
| 8  | 7991 | 7991 | 7991 | 7991 |
| 9  | N/A | N/A | 7991 | 7991 |
| 15 (2002, 2161)  | 2192 (2001) | 4524 (2001, 2162) | 4386 (2001) | 7991 (2001, 2162) |

NOTE—The maximum MPDU length corresponds to a maximum PPDU duration of 10 968 μs.

**Discussion on 2021-10-19 TGbd Teleconference:**

Discussion resulted in a SP:

1. Approach A: Use the specified 10 968 microseconds max PPDU duration for all requirement/descriptions. Note, this will hide the “actual” requirements if the “actual” max PPDU is smaller. This will also include a note for the cases that regulatory domains require a shorter duration.
2. Approach B: Allow the requirements /descriptions to be based on the “actual” max PPDU duration of the device (as required by regulations and the device capability). e.g., This approach will need to specify the maximum MPDU sizea function of the max PPDU.

Straw Poll results: Approach 1: 5, Approach 2: 0, abs: 4, did not vote: 5

Hence Approach 1. was used to generate the proposed resolution, below.

**Proposed Resolution:**

Redlined changes with NGV MPDU length base on a maximum NGV PPDU duration of 10 968 μs:

**Table 31-1—Maximum NGV MPDU length**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NGV-MCS** | **1SS 10 MHz****(octets)** | **2SS 10 MHz****(octets)** | **1SS 20 MHz****(octets)** | **2SS 20 MHz****(octets)** |
| 0 | 4524 (2001) | 7991 (2001) | 7991 (2001) | 7991 |
| 1 | 7991 (2001) | 7991 | 7991 | 7991 |
| 2 | 7991 (2001) | 7991 | 7991 | 7991 |
| 3 | 7991 | 7991 | 7991 | 7991 |
| 4 | 7991 | 7991 | 7991 | 7991 |
| 5 | 7991 | 7991 | 7991 | 7991 |
| 6  | 7991 | 7991 | 7991 | 7991 |
| 7 | 7991 | 7991 | 7991 | 7991 |
| 8  | 7991 | 7991 | 7991 | 7991 |
| 9  | N/A | N/A | 7991 | 7991 |
| 15 (2002, 2161)  | 2192 (2001) | 4524 (2001, 2162) | 4386 (2001) | 7991 (2001, 2162) |

NOTE—The maximum MPDU length is determined based on (2001) a maximum PPDU duration of 10 968 μs.

NOTE-The maximum PPDU duration may be reduced by regulatory authorities in some regulatory domains. If the maximum PPDU duration is less than 10 968 μs, the maximum MPDU length may be limited to a lower value for some MCSs (2001).

**References:**