IEEE P802.11  
Wireless LANs

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| 11be D2.0 Comment Resolution 10.12 | | | | |
| Date: August 2022 | | | | |
| Author(s): | | | | |
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Abstract

Proposed draft text for enhancements to TID mapping.

The submission proposes text changes to resolve the following CIDs

11852, 13453, 13715, 13124, 12977, 13125, 14102.

Please see discussion notes below for a review of introduced changes.

# Revision History

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| --- | --- | --- |
| **Date** | **Revision** | **Changes** |
| 2022-08-25 | 0 | Initial draft |

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| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 11852 | 294 | 26 | The derivation of the maximum a-mpdu length is becoming confusing. We have the length exponent in ht, vht, he caps, and then we have extensions in he and eht caps, not always present. please provide a table on the presence of these values in different bands and amendment. Possibly for the MPDU size as well. | As in comment. | Revised  Discussion: the commenter is correct, the text in 11be 10.12.2 is not very clear about which fields are used to decide the maximum A-MPDU size in various PPDU types and bands. The usage of HT Capabilitites, VHT Capabilitties and HE 6 GHz Band Capabilities to decide the maximum MPDU leghth is described in **Table 9-25—Maximum data unit sizes (in octets) and durations (in microseconds)**.  TGbe editor to make changes in THIS DOCUMET with lable 11852 |
| 13453 | 294 | 26 | The 2.4GHz bnad and 5GHz band should be separatelydescribed. | As in comment. | **Revised**  **Discussion: the commenter is correct, the text in 11be 10.12.2 is not very clear about which fields are used to decide the maximum A-MPDU size in various PPDU types and bands**  **TGbe editor to make changes in THIS DOCUMET with lable 13453** |
| 13715 | 294 | 1 | "and (if present) HE 6 GHz Band Capabilities elements" -> "and HE 6 GHz Band Capabilities elements (if present)" | Change "and (if present) HE 6 GHz Band Capabilities elements" to "and HE 6 GHz Band Capabilities elements (if present)" | **Accepted** |

### 10.12.2 A-MPDU length limit rules

TGbe editor: Add the following table after the 1st paragraph in ***10.12.2 A-MPDU length limit rules*** (#11852, 13453):

**Table xxx — Fields used for calculating the maximum A-MPDU size of various PPDU Types in different bands**

|  |  |  |  |  |  |  |  |
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| **Maximum A-MPDU per PPDU Type and Band** | Maximum A-MPDU Length Exponent field in HT Capabilities | Maximum A-MPDU Length Exponent field in VHT Capabilities | Maximum  A-MPDU  Length  Exponent  Extension in HE Capabilities | Maximum A-MPDU Length Exponent field in HE 6G Capabilities | Maximum  A-MPDU  Length  Exponent  Extension in EHT Capabilities | Maximum A-MPDU Length Exponent field in DMG Capabilities | Maximum A-MPDU Length Exponent field in EDMG Capabilities |
| **Maximum A-MPDU in HT PPDU of 2.4 GHz band** | Y | NA | NA | NA | NA | NA | NA |
| **Maximum A-MPDU in HE PPDU of 2.4 GHz band** | Y | NA | Y | NA | NA | NA | NA |
| **Maximum A-MPDU in EHT PPDU of 2.4 GHz band** | Y | NA | Y | NA | Y | NA | NA |
| **Maximum A-MPDU in HT PPDU of 5 GHz band** | Y | NA | NA | NA | NA | NA | NA |
| **Maximum A-MPDU in VHT PPDU of 5 GHz band** | NA | Y | NA | NA | NA | NA | NA |
| **Maximum A-MPDU in HE PPDU of 5 GHz band** | NA | Y | Y | NA | NA | NA | NA |
| **Maximum A-MPDU in EHT PPDU of 5 GHz band** | NA | Y | Y | NA | Y | NA | NA |
| **Maximum A-MPDU in HE PPDU of 6 GHz band** | NA | NA | Y | Y | NA | NA | NA |
| **Maximum A-MPDU in EHT PPDU of 6 GHz band** | NA | Y | Y | Y | Y | NA | NA |
| **Maximum A-MPDU in DMG PPDU** | NA | NA | NA | NA | NA | Y | NA |
| **Maximum A-MPDU in EDMG PPDU** | NA | NA | NA | NA | NA | NA | Y |

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| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 13124 | 294 | 60 | "If the intended receiver is an HE or EHT STA, an HE or EHT STA" -- sentence unclear, and anyway an EHT STA is an HE STA so additions unnecessary | Delete the inserted "or EHT"s | Rejected  Discussion: The paragraph mentioned by the commenter is about the calculation of MPDU start pacing. The reason that 11be draft adds EHT STA is that the referred equation in the paragraph includes EHT TB PPDU case. |

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| **CID** | **Page** | **Line** | **Comment** | **Proposed Change** | **Proposed Resolution** |
| 12977 | 296 | 4 | The 5th and 6th sub-bullets stated the case for "2.4 GHz or 5GHz band", and "6 GHz band", respectively. The 7th sub-bullet discusses the case covering all the above two -- "2.4 GHz, 5 GHz, or 6 GHz band". How to reconcile this rule with the above two? E.g. if a PPDU is an EHT PPDU sent in the 2.4 GHz which rule it follows? | *Fix the problem as described in comment* | Revised  Discussion: In 802.11baseline, the Maximum A-MPDU Length Exponent in HE Capabilities element is not used. Following the same cretiria, the 7th subbullet should be removed from the draft.  TGbe editor to make changes in THIS DOCUMET with lable 12977 |
| 13125 | 295 | 33 | "Change the last paragraph as follows:" -- no changes are shown | Identify the proposed changes | Revised  Agree with the commenter  TGbe editor to make changes in THIS DOCUMENT with lable 13125 |
| 14102 | 296 | 4 | "If the PPDU is an EHT PPDU sent in the 2.4 GHz, 5 GHz or 6 GHz band, the maximum A-MPDU length exponent extension value is the minimum value in the Maximum A-MPDU Length Exponent Extension subfield of the HE Capabilities elements across all EHT STAs associated with the transmitting AP or across all peer EHT mesh STAs"  There is further extension defined in EHT capabilities element | update the sentence to include the extension in EHT capabilities element | Revised  Discussion: In 802.11baseline, the Maximum A-MPDU Length Exponent in HE Capabilities element is not used. Following the same cretiria, the Maximum A-MPDU Length Exponent in HE Capabilities element is not used and the 7th subbullet should be removed from the draft.  TGbe editor to make changes in THIS DOCUMET with lable 14102 |

**10.12.4 A-MPDU aggregation of group addressed Data frames**

***TGbe editor: Change the last paragraph as follows:***

When a STA transmits a PPDU containing at least one A-MPDU that contains MPDUs with an RA that is a group address, the following shall apply:

— If the PPDU is an HT PPDU, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the A-MPDU Parameters field of the HT Capabilities element across all HT STAs associated with the transmitting AP or across all peer HT mesh STAs.

* If the PPDU is a VHT PPDU, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfields of the VHT Capabilities elements across all VHT STAs associated with the transmitting AP or across all peer VHT mesh STAs.
* If the PPDU is an HE PPDU sent in the 2.4 GHz or 5 GHz band, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the VHT Capabilities elements across all HE STAs associated with the transmitting AP or across all peer HE mesh STAs.
* If the PPDU is an HE PPDU sent in the 6 GHz band, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the HE 6 GHz Band Capabilities elements across all HE STAs associated with the transmitting AP or across all peer HE mesh STAs.
* If the PPDU is an EHT PPDU sent in the 2.4 GHz or 5 GHz band, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the VHT Capabilities elements across all EHT STAs associated with the transmitting AP or across all peer EHT mesh STAs. (#13125)
* If the PPDU is an EHT PPDU sent in the 6 GHz band, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the HE 6 GHz Band Capabilities elements across all EHT STAs associated with the transmitting AP or across all peer EHT mesh STAs. (#13125)
* (#12977, 14102)If the PPDU is a VHT PPDU, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfields of the A-MPDU Parameters field of the HT Capabilities elements across all VHT STAs associated with the transmitting AP or across all peer VHT mesh STAs.
* If the PPDU is an HT PPDU transmitted by an AP, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the A-MPDU Parameters field of the HT Capabilities elements across all HT STAs associated with the transmitting AP or across all peer HT mesh STAs.
* If the PPDU is an HE PPDU sent in the 2.4 GHz or 5 GHz band, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the A-MPDU Param- eters field of the HT Capabilities elements across all HE STAs associated with the transmitting AP or across all peer HE mesh STAs.
* If the PPDU is an HE PPDU sent in the 6 GHz band, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the HE 6 GHz Band Capabilities elements across all HE STAs associated with the transmitting AP or across all peer HE mesh STAs.
* If the PPDU is an EHT PPDU sent in the 2.4 GHz or 5 GHz band, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the A-MPDU Param- eters field of the HT Capabilities elements across all EHT STAs associated with the transmitting AP or across all peer EHT mesh STAs. (#13125)
* If the PPDU is an EHT PPDU sent in the 6 GHz band, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the HE 6 GHz Band Capabilities elements across all EHT STAs associated with the transmitting AP or across all peer EHT mesh STAs. (#13125)
* If the PPDU is a DMG PPDU, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfield of the A-MPDU Parameters field of the DMG Capabilities element of all DMG STAs associated with the AP or PCP.
* If the PPDU is a DMG PPDU, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfield of the A-MPDU Parameters field of the DMG Capabilities element of all DMG STAs associated with the AP or PCP.
* If the PPDU is an S1G PPDU, the maximum A-MPDU length exponent value is the minimum value in the Maximum A-MPDU Length Exponent subfields of the S1G Capabilities Information field of the S1G Capabilities elements across all S1G STAs associated with the transmitting AP.
* If the PPDU is an S1G PPDU, the minimum MPDU start spacing value is the maximum value in the Minimum MPDU Start Spacing subfields of the S1G Capabilities Information field of the S1G Capa- bilities elements across all S1G STAs associated with the transmitting AP.
* If the PPDU is an EDMG PPDU, the maximum A-MPDU length exponent value that applies is the minimum value in the Maximum A-MPDU Length Exponent subfield of the A-MPDU Parameters field of the EDMG Capabilities element of all EDMG STAs associated with the AP or PCP.
* If the PPDU is an EDMG PPDU, the minimum MPDU start spacing value that applies is the maxi- mum value in the Minimum MPDU Start Spacing subfield of the A-MPDU Parameters field of the EDMG Capabilities element of all EDMG STAs associated with the AP or PCP.