IEEE P802.11
Wireless LANs

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| 6 GHz capabilities (HT, VHT) CIDs |
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Abstract

This submission present proposed resolution for some CIDs relating to 6 GHz capabilities indication and relationship with HT/VHT support: 24058 thru 24079

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 24058 | 64 | 9.3.3.2 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | Refer to following in 26.17.1: “A STA operating in the 5 GHz or 6 GHz band that setsdot11HEOptionImplemented to true shall set both dot11VHTOptionImplemented and dot11HighThroughputOptionImplemented to true.”Therefore, an HT (or VHT) STA could indeed be a 6 GHz STA.6 GHz STAs inherit functionalities in baseline applicable to HT and VHT STAs, other than explicit exceptions such as the sentence highlighted by this CID (e.g. 6 GHz STAs do not send HT/VHT Cap/Op IEs or HT/VHT PPDUs in 6 GHz band).Since there is potential for confusion, propose adding a note in 16.17.2.1 for clarity.**Revise** – Adopt changes in 20/1003r0 |
| 24059 | 8 | 9.3.3.2 | Notes for the HT Operation: "The HT Operation element is included by an AP and a mesh STA when dot11HighThroughputOptionImplemented is true and the AP or mesh STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24060 | 11 | 9.3.3.2 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24061 | 15 | 9.3.3.2 | Notes for the VHT Operation: "The VHT Operation element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA, and is optionally present if dot11HEOptionImplemented is true; otherwise, it is not present."This description implies that an VHT STA could be a 6 GHz STA. | "is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24062 | 13 | 9.3.3.5 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24063 | 16 | 9.3.3.5 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24064 | 47 | 9.3.3.6 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24065 | 51 | 9.3.3.6 | Notes for the HT Operation: "The HT Operation element is included by an AP and a mesh STAwhen dot11HighThroughputOptionImplemented is true and the AP or mesh STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24066 | 54 | 9.3.3.6 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24067 | 58 | 9.3.3.6 | Notes for the VHT Operation: "The VHT Operation element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA, and is optionally present if dot11HEOptionImplemented is true; otherwise, it is not present."This description implies that an VHT STA could be a 6 GHz STA. | "is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24068 | 13 | 9.3.3.7 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24069 | 16 | 9.3.3.7 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24070 | 47 | 9.3.3.8 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24071 | 51 | 9.3.3.8 | Notes for the HT Operation: "The HT Operation element is included by an AP and a mesh STA when dot11HighThroughputOptionImplemented is true and the AP or mesh STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24072 | 54 | 9.3.3.8 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24073 | 58 | 9.3.3.8 | Notes for the VHT Operation: "The VHT Operation element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA, and is optionally present if dot11HEOptionImplemented is true; otherwise, it is not present."This description implies that an VHT STA could be a 6 GHz STA. | "is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24074 | 13 | 9.3.3.9 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24075 | 16 | 9.3.3.10 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24076 | 45 | 9.3.3.10 | Notes for the HT Capabilities: "The HT Capabilities element is present when dot11HighThroughputOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24077 | 49 | 9.3.3.10 | Notes for the HT Operation: "The HT Operation element is included by an AP and a mesh STA when dot11HighThroughputOptionImplemented is true and the AP or mesh STA is not a 6 GHz STA."This description implies that an HT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz HT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24078 | 53 | 9.3.3.10 | Notes for the VHT Capabilities: "The VHT Capabilities element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA."This description implies that an VHT STA could be a 6 GHz STA. | Last part of the sentence "and the STA is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |
| 24079 | 57 | 9.3.3.10 | Notes for the VHT Operation: "The VHT Operation element is present when dot11VHTOptionImplemented is true and the STA is not a 6 GHz STA, and is optionally present if dot11HEOptionImplemented is true; otherwise, it is not present."This description implies that an VHT STA could be a 6 GHz STA. | "is not a 6 GHz STA" should be removed unless we assume that there will be a 6 GHz VHT STA. | **Revise** – Adopt changes in 20/1003r0 |

**Proposed changes for CIDs #24058 thru #24079**:

### 26.17.2 HE BSS operation in the 6 GHz band

### 26.17.2.1 General

***Instruction to Editor: Modify as follows, noting that the struck sentence is a duplicate of the sentence above it:***

A STA that supports operation in the 6 GHz band sets dot11HE6GOptionImplemented to true.

A STA with dot11HE6GOptionImplemented equal to true and operating in the 6 GHz band is a 6 GHz STA.

An AP with dot11HE6GOptionImplemented equal to true and operating in the 6 GHz band is a 6 GHz AP.

A mesh STA with dot11HE6GOptionImplemented equal to true and operating in the 6 GHz band is a 6 GHz

mesh STA.

A non-AP STA with dot11HE6GOptionImplemented equal to true and operating in the 6 GHz band is a

6 GHz non-AP STA.

NOTE – A 6 GHz STA sets dot11HighThroughputOptionImplemented and dot11VHTOptionImplemented to true, but certain VHT and HT functionalities do not apply when operating in 6 GHz band – see 26.17.1.

**Reference:**

[1] IEEE P802.11ax™/D6.1, May 2020