IEEE P802.11  
Wireless LANs

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| D1.0 CRs on 36.2.4 PHY CONFIG\_VECTOR parameters | | | | |
| Date: 2021-11-02 | | | | |
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This submission shows

* Resolution for a comment received from TGbe comment collection (Based on TGbe Draft D1.0)
* The proposed changes are based on 11be D1.2.

The submission provides resolutions to following CIDs

4624, 7129, 7130

# Revision Notes

|  |  |
| --- | --- |
| R0 | Initial revision |
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## CID 4624

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| --- | --- | --- | --- | --- |
| Page. Line | Clause Number | Comment | Proposed Change | Resolution |
| 331.11 | 36.2.4 | " The PHY shall set dot11EHTCurrentChannelWidthSet to a value that is obtained from the Supported Channel Width Set subfield of a transmitted EHT Capabilities element (see 9.4.2.295c)(#1540)." has two problems: a) I cannot find that string in 9.4.2.295c (e.g. search for Channel or Width, and you see it being referenced but never defined), b) the PHY is not privy to the semantics of what is transmitted. If the PHY needs to know what is transmitted in the Supported Channel Width Set subfield of a transmitted EHT Capabilities element, then the MAC needs to tell the PHY via an explicit parameter in PHYCONFIG\_VECTOR | Both a) define Supported Channel Width Se in clause 9, and b) add an explicit parameter for the Supported Channel Width Set in the PHYCONFIG\_VECTOR, and require the MAC to configure this when anything changes. | Revised  Agreed in principle. Reflect the detailed explanation.  **Instructions to the editor**  **Please make the changes as shown in 11/21-1762r0**  Note that the resolutions for CIDs 4624, 7129, and 7130 are the same. |

## CID 7129

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Page. Line | Clause Number | Comment | Proposed Change | Resolution |
| 331.12 | 36.2.4 | "The PHY shall set dot11EHTCurrentChannelWidthSet to a value that is obtained ...". dot11EHTCurrentChannelWidthSet is a collection of values. | Change "to a value that is obtained" to "to values that are obtained" | Revised  Agreed in principle. Reflect the detailed explanation.  **Instructions to the editor**  **Please make the changes as shown in 11/21-1762r0**  Note that the resolutions for CIDs 4624, 7129, and 7130 are the same. |

## CID 7130

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Page. Line | Clause Number | Comment | Proposed Change | Resolution |
| 331.13 | 36.2.4 | "Supported Channel Width Set subfield of a transmitted EHT Capabilities element". No such subfield. "Supported Channel Width Set subfield" is in HE Capabilities Element. | Correct | Revised  Agreed in principle. Reflect the detailed explanation.  **Instructions to the editor**  **Please make the changes as shown in 11/21-1762r0**  Note that the resolutions for CIDs 4624, 7129, and 7130 are the same. |

**Discussion:**

1. PHY MIB attributes can be categorized as static ones and dynamic ones. Static MIB attributes can not be modified once a WLAN chip has been produced and dynamic MIB attributes can be modified. The related clarification can be referred to Line 43, Page 657 in TGbe Draft D1.2 (36.4.2 PHY MIB).

*36.4.2 PHY MIB*

*EHT PHY MIB attributes are defined in Annex C with specific values defined in Table 36-68 (EHT PHY MIB attributes). The “Operational semantics” column in Table 36-68 (EHT PHY MIB attributes) contains two types: static and dynamic.*

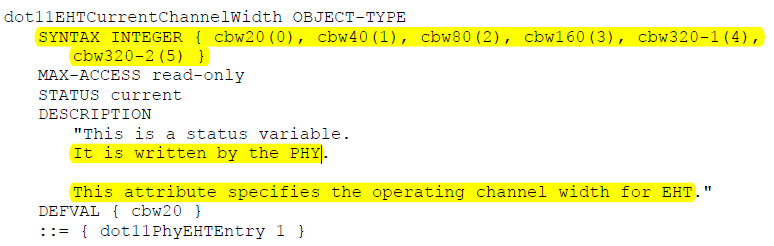
*—Static MIB attributes are fixed and cannot be modified for a given PHY implementation.*

*—Dynamic MIB attributes are interpreted according to the MAX-ACCESS field of the MIB attribute. If MAX-ACCESS is equal to read-only, the MIB attribute value may be updated by the PLME and read from the MIB attribute by management entities. If MAX-ACCESS is equal to read-write, the MIB attribute may be read and written by management entities.*

1. For EHT PHY, the new MIB attributes include:

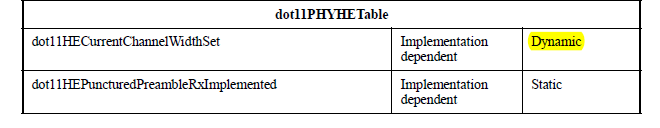
|  |  |  |
| --- | --- | --- |
| **Managed object** | **Default value/ range** | **Operational semantics** |
| **dot11PHYEHTTable** | | |
| dot11EHTCurrentChannelWidth | Implementation dependent | Dynamic |
| dot11EHTSupportFor320MHzImplemented | false/Boolean | Static |
| dot11EHTNonOFDMAULMUMIMOLessThanOrEqualto80Implemented | false/Boolean | Static |
| dot11EHTNonOFDMAULMUMIMOEqualto160Implemented | false/Boolean | Static |
| dot11EHTNonOFDMAULMUMIMOEqualto320Implemented | false/Boolean | Static |
| dot11EHTPartialBWULMUMIMOImplemented | false/Boolean | Static |
| dot11EHTMUPPDUwith4xEHTLTFand0point8usecGIImplemented | false/Boolean | Static |
| dot11EHTPSRBasedSRImplemented | false/Boolean | Static |
| dot11EHTPowerBoostFactorImplemented | false/Boolean | Static |
| dot11EHTTx1024QAMand4096QAMLessThan242ToneRUImplemented | false/Boolean | Static |
| dot11EHTRx1024QAMand4096QAMLessThan242ToneRUImplemented | false/Boolean | Static |
| dot11EHTExtraLTFsImplemented | false/Boolean | Static |
| dot11EHTMaxNumberOfSupportedEHTLTFsForSU | Implementation dependent | Static |
| dot11EHTMaxNumberOfSupportedEHTLTFsForMUandNDP | Implementation dependent | Static |
| dot11EHTMCS15For52p26and106p26MRUImplemented | false/Boolean | Static |
| dot11EHTMCS15For484p242MRUImplemented | false/Boolean | Static |
| dot11EHTMCS15For996p484and996p484p242MRUImplemented | false/Boolean | Static |
| dot11EHTMCS15For3x996MRUImplemented | false/Boolean | Static |
| dot11EHTDupImplemented | false/Boolean | Static |
| (#1306)dot11EHTSupportFor242ToneRUInBWWiderThan20Implemente d | false/Boolean | Static |
| dot11EHT20MHzOperatingSTARxNDPwithWiderBWImplemented | false/Boolean | Static |
| **dot11EHTTransmitBeamformingConfigTable** | | |
| dot11EHTSUBeamformerImplemented | false/Boolean | Static |
| dot11EHTSUBeamformeeImplemented | false/Boolean | Static |
| dot11EHTMUBeamformerLessThanOrEqualTo80Implemented | false/Boolean | Static |
| dot11EHTMUBeamformerEqualTo160Implemented | false/Boolean | Static |
| dot11EHTMUBeamformerEqualTo320Implemented | false/Boolean | Static |
| dot11EHTPartialBWDLMUMIMOImplemented | false/Boolean | Static |
| dot11EHTTriggeredSUBeamformingFeedbackImplemented | false/Boolean | Static |
| dot11EHTTriggeredMUBeamformingPartialBWFeedbackImplemented | false/Boolean | Static |
| dot11EHTTriggeredCQIFeedbackImplemented | false/Boolean | Static |
| dot11EHTNonTriggeredCQIFeedbackImplemented | false/Boolean | Static |
| dot11EHTBeamformeeSSLessThanOrEqualTo80 | Implementation dependent | Static |
| dot11EHTBeamformeeSSEqualTo160 | Implementation dependent | Static |
| dot11EHTBeamformeeSSEqualTo320 | Implementation dependent | Static |
| dot11EHTNumberSoundingDimensionsLessThanOrEqualTo80 | Implementation dependent | Static |
| dot11EHTNumberSoundingDimensionsEqualTo160 | Implementation dependent | Static |
| dot11EHTNumberSoundingDimensionsEqualTo320 | Implementation dependent | Static |
| dot11EHTNG16SUFeedbackImplemented | false/Boolean | Static |
| dot11EHTNG16MUFeedbackImplemented | false/Boolean | Static |
| dot11EHTCodebookSizePhi4Psi2SUFeedbackImplemented | false/Boolean | Static |
| dot11EHTCodebookSizePhi7Psi5MUFeedbackImplemented | false/Boolean | Static |
| dot11EHTMaxNc | Implementation dependent | Static |
| dot11EHTNDPwith4xEHTLTFand3point2GIImplemented | false/Boolean | Static |

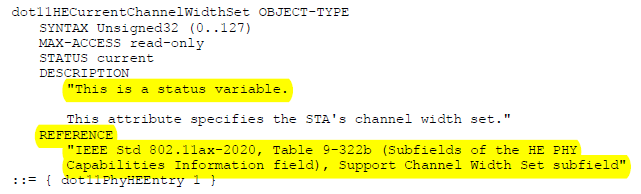
1. From the table above, it can be seen that only dot11EHTCurrentChannelWidth is dynamic and can be reset. The attribute dot11EHTCurrentChannelWidth specifies the operating channel width for EHT and should be set as one of the following values cbw20, cbw40, cbw80, cbw160, cbw320-1, and cbw320-2, which can be refered to in Line 31, Page 697 of TGbe Draft D1.2. Thus, the description in Line 8, Page 381 of TGbe Draft D1.2 is not accurate.

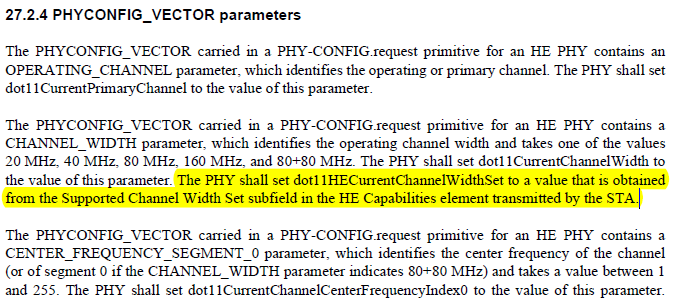


*The PHYCONFIG\_VECTOR carried in a PHY-CONFIG.request primitive for an EHT PHY contains a CHANNEL\_WIDTH parameter, which identifies the operating channel width and takes one of the values 20 MHz, 40 MHz, 80 MHz, 160 MHz, and 320 MHz. The PHY shall set dot11CurrentChannelWidth to the value of this parameter.*

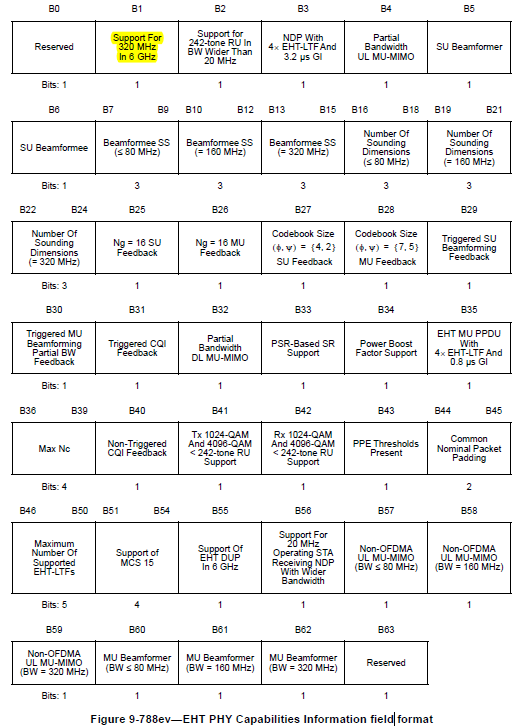
1. In addition, there exists a dynamic MIB attribute for HE PHY, which is dot11HECurrentChannelWidthSet. It specifies the STA’s channel width set and can be reset according to Support Channel Width Set subfield in Table 9-322b (Subfields of the HE PHY Capabilities Information field), which is described in Page 733 in IEEE Std 802.11ax-2020. However, according to the description in 27.2.4 PHYCONFIG\_VECTOR parameters in IEEE Std 802.11ax-2020, it seems that a parameter Support\_Channel\_Width\_Set is missing in PHYCONFIG\_VECTOR since HE Capabilities element is an MAC frame and is transparent to the PHY.

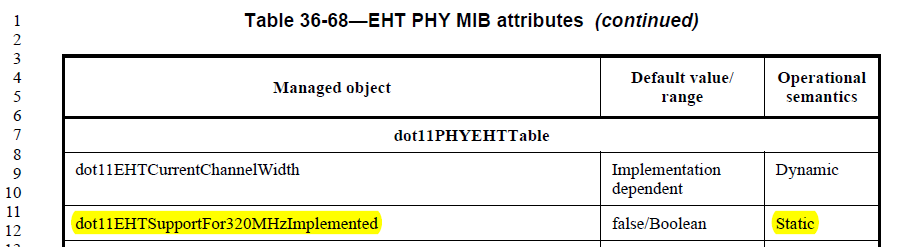


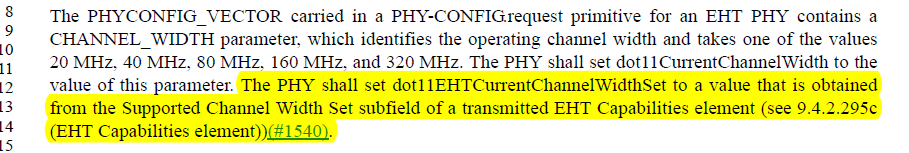




1. For EHT PHY, there exists no dot11EHTCurrentChannelWidthSet. The supported channel width set for EHT can be obtained from the Supported Channel Width Set subfield in the HE Capabilities element and the Supported For 320MHz In 6 GHz subfield in the EHT Capabilities element. However,the MIB attribute dot11EHTSupportFor320MHzImplemented is static, which can not be modified. Thus, the bandwidth 320MHz should be regarded as supported if it is implemented. The related description in 36.2.4 PHY CONFIG\_VECTOR in Line 12, Page 431 of TGbe Draft D1.2 is not accurate.







**Instructions to the editor:**

Please add the following sentence in Line 8, Page 431in TGbe Draft D1.2:

The PHYCONFIG\_VECTOR carried in a PHY-CONFIG.request primitive for an EHT PHY contains a CHANNEL\_WIDTH parameter, which identifies the operating channel width and takes one of the values 20 MHz, 40 MHz, 80 MHz, 160 MHz, 320-1 MHz, and 320-2 MHz. The PHY shall set dot11EHTCurrentChannelWidth to the value of this parameter.