IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | TBDs in 36.4 | | | | | | Date: 2021-04-28 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Youhan Kim | Qualcomm |  |  | youhank@qti.qualcomm.com | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes text updates on P802.11be D0.4 to resolve TBDs in subclause 36.4.

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

R1: Typo fixes – Removed HE SU from text. Also, fixed reference 10.13.2 to 10.12.2.

R2:

* Updated aPSDUMaxLength to assume only one EHT-SIG symbol
* Added PHY MIB variables to 36.4.1 and Annex C

R3:

* Added more description for dot11EHTPowerBoostFactorImplemented, dot11EHTTx1024QAMand4096QAMLessThan242ToneRUImplemented and dot11EHTRx1024QAMand4096QAMLessThan242ToneRUImplemented in Annex C.
* Changed phrases such as “PPDU bandwidth of 20, 40 and 80 MHz” to “PPDU bandwidth equal to any one of 20, 40 or 80 MHz”

**Discussion**

On D0.4 P470, the Editor has written:

|  |
| --- |
|  |

Note that Table 36-45 is

|  |
| --- |
|  |

And Table 36-46 is

|  |
| --- |
|  |

The Editor probably mean that Table 36-46 should also be referenced for *NSD,short*, which is correct.

**Proposed Text Update**

*Instruction to Editor: Update subclause 36.4 in D0.4 as shown below.*

36.4 EHT PLME

36.4.1 PLME\_SAP sublayer management primitives

…

|  |  |  |
| --- | --- | --- |
| * EHT PHY MIB attributes | | |
| 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 |
| dot11EHTSupportFor242ToneRUInBWWiderThan20Implemented | 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 |

36.4.2 PHY MIB

…

36.4.3 TXTIME and PSDU\_LENGTH calculation

…

For an EHT TB PPDU, the value of the PSDU\_LENGTH parameter for user *u* returned in the RXVECTOR is calculated using Equation (36-110).





where

…





where

 is given by Equation (36-113).

 is  defined in Table 36-45 (NSD,short values for EHT-MCS values from 0 to 13 and 15) for user *u*.

…

For an EHT MU PPDU, the value of the RXVECTOR parameter PSDU\_LENGTH returned for user *u* is calculated using Equation (36-114).





where

…





where

 is given by Equation (36-117).

 is  defined in Table 36-45 and Table 36-46 for user *u*.

…

36.4.4 EHT PHY

…

|  |  |
| --- | --- |
| * EHT PHY characteristics | |
| Characteristics | Value |
| aPSDUMaxLength | 15,523,200 bytes |
| aRxPHYStartDelay | 32 + 4 × NEHT-SIG µs for EHT MU PPDUs.  32 µs for EHT TB PPDUs. |
| NOTE – This is the maximum length in octets for a single user transmission using the EHT MU PPDU with the PPDU Type And Compression Mode field in the U-SIG field equal to 1, with EHT-SIG MCS 1, 320 MHz bandwidth, EHT-MCS 13, 8 spatial streams, 0.8 usec GI duration, 2x EHT-LTF, PE field with 0 µs duration, pre-FEC padding factor value of 4, and 396 Data field OFDM symbols (396 is the maximum number of Data field OFDM symbols that fits within the aPPDUMaxTime of 5.484 ms (see Table 27-54) in this case). This is the maximum PSDU length an EHT PHY could support assuming no restrictions in MAC. See 10.12.2 and 9.2.4.7.1 for additional restrictions on the maximum number of octets the MAC could support. | |

*Instruction to Editor: Update Annex C in D0.4 (plus what has been modified by 11-21/679r0) as shown below.*

C.3 MIB Detail

…

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* dot11 Phy EHT TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11PhyEHTTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11PhyEHTEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Entry of attributes for dot11PhyEHTTable. Implemented as a table indexed

on ifIndex to allow for multiple instances on an Agent."

::= { dot11phy <ANA> }

dot11PhyEHTEntry OBJECT-TYPE

SYNTAX Dot11PhyEHTEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in dot11PhyEHTEntryTable. ifIndex - Each IEEE Std 802.11

interface is represented by an ifEntry. Interface tables in this MIB

module are indexed by ifIndex."

INDEX {ifIndex}

::= { dot11PhyEHTTable 1 }

Dot11PhyEHTEntry ::=

SEQUENCE {

dot11EHTCurrentChannelWidth INTEGER,

dot11EHTSupportFor320MHzImplemented TruthValue,

dot11EHTNonOFDMAULMUMIMOLessThanOrEqualto80Implemented TruthValue,

dot11EHTNonOFDMAULMUMIMOEqualto160Implemented TruthValue,

dot11EHTNonOFDMAULMUMIMOEqualto320Implemented TruthValue,

dot11EHTPartialBWULMUMIMOImplemented TruthValue,

dot11EHTMUPPDUwith4xEHTLTFand0point8usecGIImplemented TruthValue,

dot11EHTPSRBasedSRImplemented TruthValue,

dot11EHTPowerBoostFactorImplemented TruthValue,

dot11EHTTx1024QAMand4096QAMLessThan242ToneRUImplemented TruthValue,

dot11EHTRx1024QAMand4096QAMLessThan242ToneRUImplemented TruthValue,

dot11EHTExtraLTFsImplemented TruthValue,

dot11EHTMaxNumberOfSupportedEHTLTFsForSU INTEGER,

dot11EHTMaxNumberOfSupportedEHTLTFsForMUandNDP INTEGER,

dot11EHTMCS15For52p26and106p26MRUImplemented TruthValue,

dot11EHTMCS15For484p242MRUImplemented TruthValue,

dot11EHTMCS15For996p484and996p484p242MRUImplemented TruthValue,

dot11EHTMCS15For3x996MRUImplemented TruthValue,

dot11EHTDupImplemented TruthValue,

dot11EHTSupportFor242ToneRUInBWWiderThan20Implemented TruthValue,

dot11EHT20MHzOperatingSTARxNDPwithWiderBWImplemented TruthValue

}

dot11EHTCurrentChannelWidth OBJECT-TYPE

SYNTAX INTEGER { cbw20(0), cbw40(1), cbw80(2), cbw160(3), cbw320-1(4), cbw320-2(5) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a status variable.

Written by the PHY.

This attribute specifies the operating channel width for EHT.”

DEFVAL { cbw20 }

::= { dot11PhyEHTEntry 1 }

dot11EHTSupportFor320MHzImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of transmitting and receiving 320 MHz PPDUs when operating in the 6 GHz frequency band. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 2 }

dot11EHTNonOFDMAULMUMIMOLessThanOrEqualto80Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP is capable of receiving non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth equal to any one of 20, 40 or 80 MHz.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA is capable of transmitting non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth equal to any one of 20, 40 or 80 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 3 }

dot11EHTNonOFDMAULMUMIMOEqualto160Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP is capable of receiving non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth 160 MHz.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA is capable of transmitting non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth 160 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 4 }

dot11EHTNonOFDMAULMUMIMOEqualto320Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP is capable of receiving non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth 320 MHz.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA is capable of transmitting non-OFDMA UL MU-MIMO in an EHT TB PPDU of bandwidth 320 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 5 }

dot11EHTPartialBWULMUMIMOImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP is capable of receiving EHT TB PPDUs in which MU-MIMO is employed in an RU/MRU, and that RU/MRU does not span the entire nonpunctured portion of the PPDU BW.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA is capable of transmitting an EHT TB PPDU in which MU-MIMO is employed in the RU/MRU assigned to the non-AP STA, and that RU/MRU does not span the entire nonpunctured portion of the PPDU BW. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 6 }

dot11EHTMUPPDUwith4xEHTLTFand0point8usecGIImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of receiving EHT MU PPDUs using 4x EHT-LTF and 0.8 µs guard interval duration. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 7 }

dot11EHTPSRBasedSRImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of supporting the PSR-based SR operation. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 8 }

dot11EHTPowerBoostFactorImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the non-AP STA is capable of receiving EHT MU PPDUs with RUs having a power boost factor in the range [0.5, 2]. This capability is disabled otherwise, in which case the non-AP STA is capable of receiving EHT MU PPDUs with RUs having a power boost factor in the range [1/sqrt(2), sqrt(2)].”

DEFVAL { false }

::= { dot11PhyEHTEntry 9 }

dot11EHTTx1024QAMand4096QAMLessThan242ToneRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the support for transmitting EHT TB PPDUs using 1024-QAM and 4096-QAM in a 26, 52 and 106-tone RU as well as 52+26 and 106+26-tone MRU by the non-AP STA is the same as indicated in the Tx EHT-MCS Map (≤ 80 MHz) subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element.

This capability is disabled otherwise, in which case the non-AP STA does not support transmitting EHT TB PPDUs using 1024-QAM and 4096-QAM in a 26, 52 and 106-tone RU as well as 52+26 and 106+26-tone MRU regardless of the indication in the Tx EHT-MCS Map (≤ 80 MHz) subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element.”

DEFVAL { false }

::= { dot11PhyEHTEntry 10 }

dot11EHTRx1024QAMand4096QAMLessThan242ToneRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the support for receiving EHT MU PPDUs using 1024-QAM and 4096-QAM in a 26, 52 and 106-tone RU as well as 52+26 and 106+26-tone MRU by the non-AP STA is the same as indicated in the Rx EHT-MCS Map (≤ 80 MHz) subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element.

This capability is disabled otherwise, in which case the non-AP STA does not support receiving EHT MU PPDUs using 1024-QAM and 4096-QAM in a 26, 52 and 106-tone RU as well as 52+26 and 106+26-tone MRU regardless of the indication in the Rx EHT-MCS Map (≤ 80 MHz) subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element.”

DEFVAL { false }

::= { dot11PhyEHTEntry 11 }

dot11EHTExtraLTFsImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of receiving EHT non-OFDMA transmissions using extra EHT-LTF symbols. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 12 }

dot11EHTMaxNumberOfSupportedEHTLTFsForSU OBJECT-TYPE

SYNTAX INTEGER { 4(0), 8(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of EHT-LTF symbols supported by the STA for non-OFDMA transmissions to a single user.”

DEFVAL { 0 }

::= { dot11PhyEHTEntry 13 }

dot11EHTMaxNumberOfSupportedEHTLTFsForMUandNDP OBJECT-TYPE

SYNTAX INTEGER { 4(0), 8(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of EHT-LTF symbols supported by the STA for transmissions to multiple users and for an EHT NDP.”

DEFVAL { 0 }

::= { dot11PhyEHTEntry 14 }

dot11EHTMCS15For52p26and106p26MRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA supports MCS 15 in 52+26-tone and 106+26-tone MRUs. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 15 }

dot11EHTMCS15For484p242MRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA supports MCS 15 in a 484+242-tone MRU. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 16 }

dot11EHTMCS15For996p484and996p484p242MRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA supports MCS 15 in 996+484-tone and 996+484+242-tone MRUs. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 17 }

dot11EHTMCS15For3x996MRUImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA supports MCS 15 in a 3x996-tone MRU. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 18 }

dot11EHTDupImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA supports EHT DUP in 6 GHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11PhyEHTEntry 19 }

dot11EHTSupportFor242ToneRUInBWWiderThan20Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of receiving

a 242-tone RU in a PPDU with a bandwidth larger than 20 MHz. This capability

is disabled otherwise."

DEFVAL { false }

::= { dot11PhyEHTEntry 20 }

dot11EHT20MHzOperatingSTARxNDPwithWiderBWImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the STA is capable of receiving

an EHT NDP with a PPDU bandwidth equal to any one of 40, 80 or 160 MHz. This capability

is disabled otherwise."

DEFVAL { false }

::= { dot11PhyEHTEntry 21 }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* End of dot11 Phy EHT TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* dot11 EHT Transmit Beamforming Config TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

dot11EHTTransmitBeamformingConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF Dot11EHTTransmitBeamformingConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Entry of attributes for Dot11EHTTransmitBeamformingConfigTable. Implemented as a table indexed on ifIndex to allow for multiple instances on an Agent."

::= { dot11phy <ANA> }

dot11EHTTransmitBeamformingConfigEntry OBJECT-TYPE

SYNTAX Dot11EHTTransmitBeamformingConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry in Dot11EHTTransmitBeamformingConfigTable.

ifIndex - Each IEEE Std 802.11 interface is represented by an ifEntry. Interface tables in this MIB module are indexed by ifIndex."

INDEX {ifIndex}

::= { dot11EHTTransmitBeamformingConfigTable 1 }

Dot11EHTTransmitBeamformingConfigEntry ::=

SEQUENCE {

dot11EHTSUBeamformerImplemented TruthValue,

dot11EHTSUBeamformeeImplemented TruthValue,

dot11EHTMUBeamformerLessThanOrEqualTo80Implemented TruthValue,

dot11EHTMUBeamformerEqualTo160Implemented TruthValue,

dot11EHTMUBeamformerEqualTo320Implemented TruthValue,

dot11EHTPartialBWDLMUMIMOImplemented TruthValue,

dot11EHTTriggeredSUBeamformingFeedbackImplemented TruthValue,

dot11EHTTriggeredMUBeamformingPartialBWFeedbackImplemented TruthValue,

dot11EHTTriggeredCQIFeedbackImplemented TruthValue,

dot11EHTNonTriggeredCQIFeedbackImplemented TruthValue,

dot11EHTBeamformeeSSLessThanOrEqualTo80 Unsigned32,

dot11EHTBeamformeeSSEqualTo160 Unsigned32,

dot11EHTBeamformeeSSEqualTo320 Unsigned32,

dot11EHTNumberSoundingDimensionsLessThanOrEqualTo80 Unsigned32,

dot11EHTNumberSoundingDimensionsEqualTo160 Unsigned32,

dot11EHTNumberSoundingDimensionsEqualTo320 Unsigned32,

dot11EHTNG16SUFeedbackImplemented TruthValue,

dot11EHTNG16MUFeedbackImplemented TruthValue,

dot11EHTCodebookSizePhi4Psi2SUFeedbackImplemented TruthValue,

dot11EHTCodebookSizePhi7Psi5MUFeedbackImplemented TruthValue,

dot11EHTMaxNc Unsigned32,

dot11EHTNDPwith4xEHTLTFand3point2GIImplemented TruthValue

}

dot11EHTSUBeamformerImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that operation as an SU beamformer is supported. This capability is disabled otherwise.”DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 1 }

dot11EHTSUBeamformeeImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that operation as an SU beamformee is supported in the AP. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 2 }

dot11EHTMUBeamformerLessThanOrEqualTo80Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the AP supports non-OFDMA DL MU-MIMO transmission and the required MU sounding for PPDU bandwidths equal to any one of 20, 40 or 80 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 3 }

dot11EHTMUBeamformerEqualTo160Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the AP supports non-OFDMA DL MU-MIMO transmission and the required MU sounding for PPDU bandwidth equal to 160 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 4 }

dot11EHTMUBeamformerEqualTo320Implemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the AP supports non-OFDMA DL MU-MIMO transmission and the required MU sounding for PPDU bandwidth equal to 320 MHz. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 5 }

dot11EHTPartialBWDLMUMIMOImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the non-AP STA supports receiving DL MU-MIMO on an RU/MRU in an EHT MU PPDU where the RU/MRU does not span the entire PPDU bandwidth. This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 6 }

dot11EHTTriggeredSUBeamformingFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP supports receiving partial and full bandwidth SU feedback in an EHT TB sounding sequence.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA supports transmitting partial and full bandwidth SU feedback in an EHT TB sounding sequence.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 7 }

dot11EHTTriggeredMUBeamformingPartialBWFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP supports receiving partial bandwidth MU feedback in an EHT TB sounding sequence.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA supports transmitting partial bandwidth MU feedback in an EHT TB sounding sequence.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 8 }

dot11EHTTriggeredCQIFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP supports receiving partial bandwidth CQI feedback in an EHT TB sounding sequence.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA supports transmitting partial bandwidth CQI feedback in an EHT TB sounding sequence.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 9 }

dot11EHTNonTriggeredCQIFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true for an AP implementation, indicates that the AP supports receiving full bandwidth CQI feedback in an EHT non-TB sounding sequence.

This attribute, when true for a non-AP STA implementation, indicates that the non-AP STA supports transmitting full bandwidth CQI feedback in an EHT non-TB sounding sequence.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 10 }

dot11EHTBeamformeeSSLessThanOrEqualTo80 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams that the STA can receive in an EHT sounding NDP of bandwidth equal to any one of 20, 40 or 80 MHz. This attribute also indicates the maximum total number of spatial streams over all users that can be sent in a DL MU-MIMO transmission in an EHT MU PPDU of bandwidth equal to any one of 20, 40 or 80 MHz, on an RU/MRU that includes that STA, where the RU/MRU might or might not span the entire PPDU bandwidth.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 11 }

dot11EHTBeamformeeSSEqualTo160 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams that the STA can receive in an EHT sounding NDP of bandwidth equal to 160 MHz. This attribute also indicates the maximum total number of spatial streams over all users that can be sent in a DL MU-MIMO transmission in an EHT MU PPDU of bandwidth equal to 160 MHz, on an RU/MRU that includes that STA, where the RU/MRU might or might not span the entire PPDU bandwidth.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 12 }

dot11EHTBeamformeeSSEqualTo320 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams that the STA can receive in an EHT sounding NDP of bandwidth equal to 320 MHz. This attribute also indicates the maximum total number of spatial streams over all users that can be sent in a DL MU-MIMO transmission in an EHT MU PPDU of bandwidth equal to 320 MHz, on an RU/MRU that includes that STA, where the RU/MRU might or might not span the entire PPDU bandwidth.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 13 }

dot11EHTNumberSoundingDimensionsLessThanOrEqualTo80 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams the beamformer can transmit in an EHT sounding NDP with PPDU bandwidth equal to any one of 20, 40 or 80 MHz.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 14 }

dot11EHTNumberSoundingDimensionsEqualTo160 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams the beamformer can transmit in an EHT sounding NDP with PPDU bandwidth equal to 160 MHz.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 15 }

dot11EHTNumberSoundingDimensionsEqualTo320 OBJECT-TYPE

SYNTAX Unsigned32 (4..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of spatial streams the beamformer can transmit in an EHT sounding NDP with PPDU bandwidth equal to 320 MHz.”

DEFVAL { 4 }

::= { dot11EHTTransmitBeamformingConfigEntry 16 }

dot11EHTNG16SUFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the EHT beamformee supports subcarrier grouping of 16 in the EHT Compressed Beamforming Report field for SU feeback.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 17 }

dot11EHTNG16MUFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the EHT beamformee supports subcarrier grouping of 16 in the EHT Compressed Beamforming Report field for MU feeback.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 18 }

dot11EHTCodebookSizePhi4Psi2SUFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the EHT beamformee supports codebook size (psi, phi) = {4, 2} in the EHT Compressed Beamforming Report field for SU feeback.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 19 }

dot11EHTCodebookSizePhi7Psi5MUFeedbackImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the EHT beamformee supports codebook size (psi, phi) = {7, 5} in the EHT Compressed Beamforming Report field for MU feeback.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 20 }

dot11EHTMaxNc OBJECT-TYPE

SYNTAX Unsigned32 (1..8)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute indicates the maximum number of columns (Nc) supported by the EHT beamformee for the EHT Compressed Beamforming/CQI.”

::= { dot11EHTTransmitBeamformingConfigEntry 21 }

dot11EHTNDPwith4xEHTLTFand3point2GIImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates that the EHT beamformee supports receiving an EHT sounding NDP using 4x EHT-LTF and 3.2 µs guard interval duration.

This capability is disabled otherwise.”

DEFVAL { false }

::= { dot11EHTTransmitBeamformingConfigEntry 22 }

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* End of dot11 EHT Transmit Beamforming Config TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

…

***Insert the following compliance objects after the dot11CMMGComplianceGroup object:***

dot11EHTTransmitBeamformingGroup OBJECT-GROUP

OBJECTS {

dot11EHTSUBeamformerImplemented,

dot11EHTSUBeamformeeImplemented,

dot11EHTMUBeamformerLessThanOrEqualTo80Implemented,

dot11EHTMUBeamformerEqualTo160Implemented,

dot11EHTMUBeamformerEqualTo320Implemented,

dot11EHTPartialBWDLMUMIMOImplemented,

dot11EHTTriggeredSUBeamformingFeedbackImplemented,

dot11EHTTriggeredMUBeamformingPartialBWFeedbackImplemented,

dot11EHTTriggeredCQIFeedbackImplemented,

dot11EHTNonTriggeredCQIFeedbackImplemented,

dot11EHTBeamformeeSSLessThanOrEqualTo80,

dot11EHTBeamformeeSSEqualTo160,

dot11EHTBeamformeeSSEqualTo320,

dot11EHTNumberSoundingDimensionsLessThanOrEqualTo80,

dot11EHTNumberSoundingDimensionsEqualTo160,

dot11EHTNumberSoundingDimensionsEqualTo320,

dot11EHTNG16SUFeedbackImplemented,

dot11EHTNG16MUFeedbackImplemented,

dot11EHTCodebookSizePhi4Psi2SUFeedbackImplemented,

dot11EHTCodebookSizePhi7Psi5MUFeedbackImplemented,

dot11EHTMaxNc,

dot11EHTNDPwith4xEHTLTFand3point2GIImplemented

}

STATUS current

DESCRIPTION

"Attributes that configure EHT transmit beamforming for IEEE 802.11."

::= { dot11Groups <ANA> }

dot11PhyEHTComplianceGroup OBJECT-GROUP

OBJECTS {

dot11EHTCurrentChannelWidth,

dot11EHTSupportFor320MHzImplemented,

dot11EHTNonOFDMAULMUMIMOLessThanOrEqualto80Implemented,

dot11EHTNonOFDMAULMUMIMOEqualto160Implemented,

dot11EHTNonOFDMAULMUMIMOEqualto320Implemented,

dot11EHTPartialBWULMUMIMOImplemented,

dot11EHTMUPPDUwith4xEHTLTFand0point8usecGIImplemented,

dot11EHTPSRBasedSRImplemented,

dot11EHTPowerBoostFactorImplemented,

dot11EHTTx1024QAMand4096QAMLessThan242ToneRUImplemented,

dot11EHTRx1024QAMand4096QAMLessThan242ToneRUImplemented,

dot11EHTExtraLTFsImplemented,

dot11EHTMaxNumberOfSupportedEHTLTFsForSU,

dot11EHTMaxNumberOfSupportedEHTLTFsForMUandNDP,

dot11EHTMCS15For52p26and106p26MRUImplemented,

dot11EHTMCS15For484p242MRUImplemented,

dot11EHTMCS15For996p484and996p484p242MRUImplemented,

dot11EHTMCS15For3x996MRUImplemented,

dot11EHTDupImplemented,

dot11EHTSupportFor242ToneRUInBWWiderThan20Implemented,

dot11EHT20MHzOperatingSTARxNDPwithWiderBWImplemented,

dot11EHTPPEThresholdsRequired

}

STATUS current

DESCRIPTION

"Attributes that configure the EHT PHY."

::= { dot11Groups <ANA> }

[End of File]