IEEE P802.11
Wireless LANs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| EHT SU |
| Date: 2022-09-13 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Youhan Kim | Qualcomm |  |  | youhank@qti.qualcomm.com |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

 |

Abstract

This submission proposes resolutions for the following comments from comment collection on P802.11be D2.0:

13113

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: Updated per discussion during the 9/13/2022 PM1 PHY ad hoc.

R2: Added a few more places to use the term “EHT SU transmission”

# CID 13113

|  |  |  |
| --- | --- | --- |
| **CID****Clause****Page.Line** | **Comment** | **Proposed Change** |
| 1311336.1.1542.10 | Basic single-user PPDUs are called EHT MU PDDUs in D2.0. Why did the group decide to make this definition so confusing. | Introduce EHT SU PPDU as the name for any non-OFDMA PPDU sent to single receiver address. |

**Discussion**

While multi-user transmissions (such as MU-MIMO and OFDMA) play an important role in the advanced modes of IEEE 802.11 WLAN operation, “single user” (SU) transmissions (PPDUs containing a single PSDU) continues to be the basic building block of WLAN. Therefore, there are countless occasions where we need to refer to an SU transmission both within the IEEE 802.11 as well as externally.

In previous IEEE 802.11 PHY generations, it was very efficient to refer to SU transmissions ‘precisely’ by use the term VHT SU PPDU and HE SU PPDU. However, 11be decided not to define a separate EHT SU PPDU “format”, and instead merged it as one of the ‘sub-modes’ of the EHT MU PPDU. While that might have been useful in reducing the number of PPDU types, it resulted in having no concise method to refer to an “SU” transmission in EHT.

For example, there are ~130 instances in the 11be D2.1.1 where phrases like the following were used:

* Non-OFDMA tranmisssion to a single user
* Non-OFDMA EHT MU PPDU transmitted to a single user
* EHT MU PPDU configured for a single user
* Single user non-OFDMA EHT MU PPDU
* EHT MU PPDU for single user
* Transmissions for single users in EHT MU PPDU
* (EHT) transmission to a single user
* EHT single user transmission
* EHT MU PPDU is a transmission to a single user
* EHT MU PPDU with single RU or MRU in the entire PPDU bandwidth
* …

These are all mouthful phrases, they really just intended to say “EHT SU” transmissions. The 11be draft ended up with all these complex phrases just because there is no simple way to ‘say’ EHT SU.

Hence, the proposal is to ‘define’ EHT SU.

The commenter is proposing to define an EHT SU “PPDU”. That is certainly one possibility.

Another possibility is to define an EHT SU “transmission” to be one mode of EHT MU PPDU.

This document proposes the latter approach to reduce the required text changes.

Finally, following are the existing definition of “non-OFDMA” and “SU” which readers might find helpful when reading the proposed definition for “EHT SU transmission”.

11be D2.1.1 P53



REVme D1.3 P203



**Proposed Resolution: CIDs 13113**

REVISED

**Note to commenter:**

Agree with the commenter that a concise/precise name for an EHT SU is needed. The proposed text change below defines “EHT SU transmission” instead of “EHT SU PPDU”.

**Instruction to TGbe Editor:**

Implement the proposed text updates for CID 13113 in [https://mentor.ieee.org/802.11/dcn/22/11-22-1546-02-00be-eht-su.docx](https://mentor.ieee.org/802.11/dcn/22/11-22-1546-01-00be-eht-su.docx)

**Proposed Text Updates: CIDs 13113**

*Instruction to TGbe Editor: Add the following at 11be D2.1.1 P52L34:*

**extremely high throughput (EHT) single user (SU) transmission:** A non-OFDMA EHT MU PPDU addressed to a single user. See 36.3.18a (EHT SU transmission).

*Instruction to TGbe Editor: Update 11be D2.1.1 P52L34 as shown below:*

**Table 9-401l—Subfield of the EHT PHY Capabilities Information field *(continued)***

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| Maximum Number Of Supported EHT- LTFs | B0 indicates support for reception of extra EHT-LTFs for non-OFDMA transmission in an EHT MU PPDU.B1–B2 indicates the maximum number of EHT-LTFs supported for reception within an EHT SU transmission.B3–B4 indicates the maximum number of EHT-LTFs supported for reception of trans- missions to multiple users (OFDMA and non- OFDMA). B3–B4 also indicates the maximum number of EHT-LTFs supported for the recep- tion of an EHT sounding NDP. | B0 is set to 0 if not supported. B0 is set to 1 if supported.A B1–B2 value of 0 indicates a maxi- mum of four EHT-LTFs. A B1–B2 value of 1 indicates a maximum of eight EHT-LTFs. B1–B2 values of 2 and 3 are reserved.If B0 is set to 0, then B1 and B2 are both reserved.A B3–B4 value of 0 indicates a maxi- mum of four EHT-LTFs. A B3–B4 value of 1 indicates a maximum of eight EHT-LTFs. B3–B4 values of 2 and 3 are reserved.If B0 is set to 0, the B3–B4 applies only to OFDMA transmissions.The maximum number of supported EHT-LTFs shall be no less than the value indicated in Table 36-43 (Initial number of EHT-LTFs required for dif- ferent number of spatial streams) based on the maximum number of supported spatial streams, which is the highest Nss value indicated by the STA in Beamformee SS subfield and Supported EHT-MCS And NSS Set field over all supported bandwidths and EHT-MCSs. |

*Instruction to TGbe Editor: Update 11be D2.1.1 P530L53 as shown below:*

**35.12.1.2 POWER\_BOOST\_FACTOR**

The power boost factor POWER\_BOOST\_FACTOR for the *r*-th occupied RU or MRU in an OFDMA EHT MU PPDU in the TXVECTOR shall be in the range of if the Power Boost Factor Support subfield of the EHT PHY Capabilities Information field in the EHT Capabilities element from any recipient STA of the PPDU equals 0; and otherwise shall be in the range of [0.5, 2]. For an EHT SU transmission, POWER\_BOOST\_FACTOR shall be set to 1.

**35.12.2 SPATIAL\_REUSE**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P532L59 as shown below:*

An EHT AP that transmits an EHT SU transmission that contains a Trigger frame should set the TXVECTOR parameter SPATIAL\_REUSE to SR\_DELAYED.

*Instruction to TGbe Editor: Update 11be D2.1.1 P533L53 as shown below:*

An EHT STA that transmits an EHT SU transmission shall not set the TXVECTOR parameter SPATIAL\_REUSE to SR\_RESTRICTED.

**36.1.1 Introduction to the EHT PHY**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P558L7 as shown below:*

EHT-MCS 15 is only used in single spatial stream non-MU-MIMO transmission. The EHT PHY introduces EHT DUP mode for an EHT SU transmission with single spatial stream and LDPC coding in the 6 GHz band as EHT-MCS 14.

…

An EHT STA shall support the following features:

*Instruction to TGbe Editor: Update 11be D2.1.1 P558L13 as shown below:*

—Transmission and reception of an EHT SU transmission.

*Instruction to TGbe Editor: Update 11be D2.1.1 P558L47 as shown below:*

— EHT SU transmissions with a 2× EHT-LTF and 0.8 µs GI duration on the EHT-LTF and Data field OFDM symbols (transmit and receive).

— EHT SU transmissions with a 2× EHT-LTF and 1.6 µs GI duration on the EHT-LTF and Data field OFDM
symbols (transmit and receive).
— EHT SU transmissions with a 4× EHT-LTF and 3.2 µs GI duration on the EHT-LTF and Data field OFDM
symbols (transmit and receive).

An EHT STA may support the following features:

*Instruction to TGbe Editor: Update 11be D2.1.1 P559L9 as shown below:*

— EHT-MCS 14 (transmit and receive) in the 6 GHz nonpunctured 80 MHz, 160 MHz, and 320 MHz EHT SU transmissions, if the STA declares support for 80 MHz, 160 MHz, and 320 MHz PPDU, respectively.

*Instruction to TGbe Editor: Update 11be D2.1.1 P559L20 as shown below:*

— EHT SU transmissions with a 4× EHT-LTF and 0.8 µs GI duration on the EHT-LTF and Data field OFDM symbols (transmit and receive)

*Instruction to TGbe Editor: Update 11be D2.1.1 P564L37 as shown below:*

**Table 36-1—TXVECTOR and RXVECTOR parameters**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Condition** | **Value** | **TXVECTOR** | **RXVECTOR** |
| EHT\_PPDU\_TYPE | FORMAT is EHT\_MU and UPLINK\_FLAG is 0 | Set to 0 to indicate a DL OFDMA transmission (including non-MU-MIMO and MU-MIMO).Set to 1 to indicate an EHT SU transmission or EHT sounding NDP not addressed to an AP.Set to 2 to indicate a DL MU-MIMO (non-OFDMA) transmission. | Y | Y |
| FORMAT is EHT\_MU and UPLINK\_FLAG is 1 | Set to 1 to indicate an UL EHT SU transmission or EHT sounding NDP. | Y | Y |
| FORMAT is EHT\_TB | Set to 0. | O | O |

**36.3.5 EHT DUP transmission**

**…**

*Instruction to TGbe Editor: Update 11be D2.1.1 P623L45 as shown below:*

EHT DUP mode is an optional mode that is applicable only in the 6 GHz band. EHT DUP mode is applicable only an EHT SU transmission.

*Instruction to TGbe Editor: Update 11be D2.1.1 P623L54 as shown below:*

EHT DUP mode is signaled by setting the PPDU Type And Compression Mode subfield in the U-SIG field (Table 36-28) to 1 to indicate an EHT SU transmission, and setting the MCS subfield of the User field in EHT-SIG (Table 36-40) to 14.

**36.3.6 Transmitter block diagram**

**…**

*Instruction to TGbe Editor: Update 11be D2.1.1 P623L54 as shown below:*

**Figure 36-26—Transmitter block diagram for the Data field of an EHT SU transmission in RU or MRU size larger than 996 tones with LDPC encoding**

**36.3.7 Overview of the PPDU encoding process**

**36.3.7.10 Construction of Data field in an EHT PPDU**

**…**

*Instruction to TGbe Editor: Update 11be D2.1.1 P637L19 as shown below:*

l) Frequency domain duplication: For an EHT SU transmission using EHT-MCS 14, perform frequency domain duplication as described in 36.3.13.10. This block is bypassed for all other cases.

**36.3.11 Mathematical description of signals**

**36.3.11.4 Transmitted signal**

**…**

*Instruction to TGbe Editor: Update 11be D2.1.1 P649L47 as shown below:*

NOTE— α*r* is constrained as defined in 35.12.1.2 (POWER\_BOOST\_FACTOR), i.e., for an OFDMA EHT MU PPDU, α*r* is in the range of if the Power Boost Factor Support subfield of the EHT PHY Capabilities Information field in the EHT Capabilities element from any recipient STA of the PPDU equals 0; and otherwise α*r* is in the range of [0.5, 2]. For an EHT SU transmission, α*r* equals 1.

**36.3.12.7 U-SIG**

**36.3.12.7.2 Content**

**…**

*Instruction to TGbe Editor: Update 11be D2.1.1 P660L31 as shown below:*

**Table 36-28—U-SIG field of an EHT MU PPDU**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
| U-SIG-2 | B0–B1 | PPDU Type And Compression Mode | 2 | If the UL/DL field is set to 0:A value of 0 indicates a DL OFDMA transmission.A value of 1 indicates and EHT SU transmission or an EHT sounding NDP.A value of 2 indicates a non-OFDMA DL MU-MIMO transmission.A value of 3 is Validate.If the UL/DL field is set to 1:A value of 1 indicates an EHT SU transmission or an EHT sounding NDP. Values 2 and 3 are Validate.NOTE—A value of 0 indicates a TB PPDU. Refer to [Table 36-31 (U-SIG field](#bookmark106) [of an EHT TB PPDU)](#bookmark106).For further clarifications on all values of this field, refer to [Table 36-29 (Combination of](#bookmark104) [UL/DL and PPDU Type And Compression](#bookmark104) [Mode field)](#bookmark104). |

*Instruction to TGbe Editor: Update 11be D2.1.1 P662L46 as shown below:*

**Table 36-29—Combination of UL/DL and PPDU Type And Compression Mode field**

|  |  |
| --- | --- |
| **U-SIG fields** | **Description** |
| **UL/DL** | **PPDU Type And Compression Mode** | **EHT PPDU****format** | **EHT-SIG****present?** | **RU****Allocation subfields present?** | **Total number of User fields in MU PPDU or****transmitters in TB PPDU** | **Note** |
|  | 0 | EHT MU | Yes | Yes |  1 | DL OFDMA (including non-MU-MIMO and |
|  |  |  |  |  |  | MU-MIMO) |
|  |  |  |  |  | 1 for EHT SU transmission; 0 for NDP | EHT SU transmission or NDP that is notaddressed to an AP.NOTE—One such case is a downlinktransmission from anAP to a non-AP STA. |
|  |  |  |  |  |
|  |  |  |  |  |
| 0 (DL) | 1 | EHT MU | Yes | No |
|  |  |  |  |  |
|  |  |  |  |  |
|  | 2 | EHT MU | Yes | No | > 1 | (#10378)DL non- OFDMA MU-MIMO |
|  | 3 | — | — | — | — | Validate |
| 1 (UL) | 0 | EHT TB | No | — |  1 | UL OFDMA or ULnon-OFDMA (including non-MU-MIMO and MU-MIMO). |
| 1 | EHT MU | Yes | No | 1 for EHT SU transmission; 0 for NDP | EHT SU transmission or NDP that is addressed to an AP. |
| 2–3 | — | — | — | — | Validate |

If the PPDU Type And Compression Mode field is set to 1, the EHT MU PPDU is EHT SU transmission or an EHT sounding NDP regardless of the value of the UL/DL field. In addition to the PPDU Type And Compression Mode field being set to 1, if the EHT-SIG MCS field is set to 0 and the Number Of EHTSIG Symbols field is set to 0, it indicates an EHT sounding NDP. In the case of the EHT SU transmission, the Number Of EHT-SIG Symbols field should be set to 0 if the EHT-SIG MCS field is set to 1 or 2, 1 if the EHT-SIG MCS field is set to 0, or 3 if the EHT-SIG MCS field is set to 3.

*Instruction to TGbe Editor: Update 11be D2.1.1 P668L12 as shown below:*

**Table 36-31—U-SIG field of an EHT TB PPDU**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
| U-SIG-2 | B0–B1 | PPDU Type And Compressed Mode | 2 | If the UL/DL field is set to 1: Set to 0 for a TB PPDU.Values of 2 and 3 are Validate.NOTE—A value of 1 indicates an EHT SU transmission or an EHT sounding NDP. Refer to [Table 36-28 (U-](#bookmark103) [SIG field of an EHT MU PPDU)](#bookmark103).For further clarification on all values of this field, refer to [Table 36-29 (Combination of](#bookmark104) [UL/DL and PPDU Type And Compression](#bookmark104) [Mode field)](#bookmark104). |

**36.3.12.8.2 EHT-SIG content channels**

*Instruction to TGbe Editor: Update 11be D2.1.1 P674L15 as shown below:*

The EHT-SIG field of an EHT SU transmission and the EHT-SIG field of an EHT sounding NDP contains one EHT-SIG content channel and it is duplicated in each nonpunctured 20 MHz when the EHT PPDU is equal to or wider than 40 MHz.

*Instruction to TGbe Editor: Update 11be D2.1.1 P675L45 as shown below:*

As shown in Figure 36-34, the User Specific field in an EHT SU transmission contains one User field but there exists no user encoding block.

*Instruction to TGbe Editor: Update 11be D2.1.1 P676L15 as shown below:*

**Figure 36-34—EHT-SIG content channel format for an EHT SU transmission**

**36.3.12.8.4 Common field for non-OFDMA transmission**

*Instruction to TGbe Editor: Update 11be D2.1.1 P688L3 as shown below:*

The Common field for an EHT SU transmission, and non-OFDMA transmission to multiple users is defined in Table 36-36.

**Table 36-36—Common field for an EHT SU transmission and non-OFDMA transmission to multiple users**

*Instruction to TGbe Editor: Update 11be D2.1.1 P689L17 as shown below:*

|  |  |  |  |
| --- | --- | --- | --- |
| **Bit** | **Subfield** | **Number of bits** | **Description** |
| B17–B19 | Number Of Non-OFDMA Users | 3 | Indicates the total number of non-OFDMA users. Set to *n* to indicate *n*+1 non-OFDMA users. Set to 0 for an EHT SU transmission and set to a value larger than 0 for non-OFDMA transmission to multiple users. Other values are Validate if dot11EHTBaseLineFeaturesImplementedOnly equals true. |

*Instruction to TGbe Editor: Update 11be D2.1.1 P689L25 as shown below:*

B0–B16 of Table 36-36 are U-SIG Overflow bits for an EHT SU transmission and non-OFDMA transmission to multiple users. Both the U-SIG Overflow bits and Number Of Non-OFDMA Users subfields are duplicated in each content channel.

For an EHT SU transmission using BCC, the LDPC Extra Symbol Segment field is set to 0 to indicate that an LDPC extra symbol segment is not present.

**36.3.12.8.5 User Specific field**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P691L49 as shown below:*

For an EHT SU transmission (in the U-SIG field, the UL/DL field is set to either 0 or 1, the PPDU Type And Compression Mode field is set to 1, and the EHT-SIG MCS field and the Number of EHT-SIG Symbols field are not set to 0 at the same time), and a DL non-OFDMA transmission to multiple users (in the U-SIG field, the UL/DL field is set to 0, and the PPDU Type And Compression Mode field is set to 2), the number of user fields is indicated by the Number Of Non-OFDMA Users subfield. The Common field of the EHT-SIG content channel is encoded together with the first User field in the same content channel. This common encoding block contains a CRC and a Tail. The content of the common encoding block in the EHT-SIG field for an EHT SU transmission and non-OFDMA transmission to multiple users is defined in Table 36-38.

*Instruction to TGbe Editor: Update 11be D2.1.1 P692L6 as shown below:*

**Table 36-38—The common encoding block in an EHT-SIG field for an EHT SU transmission and non-OFDMA transmission to multiple users**

|  |  |  |  |
| --- | --- | --- | --- |
| **Bit** | **Subfield** | **Number of bits per subfield** | **Description** |
| B0–B19 | Common field for an EHT SU transmission and non-OFDMA transmission to multiple users | 20 | The Common field for and EHT SU transmission and non- OFDMA transmission to multiple users is defined in Table 36-36. |

*Instruction to TGbe Editor: Update 11be D2.1.1 P693L38 as shown below:*

The contents of the User field differ depending on whether the field addresses a user in a non-MU-MIMO allocation in an RU or a user in an MU-MIMO allocation in an RU. For an EHT SU transmission, the User field format for a non-MU-MIMO allocation is used.

**36.3.12.8.6 Encoding and modulation**

*Instruction to TGbe Editor: Update 11be D2.1.1 P699L48 as shown below:*

For OFDMA transmission, the Common field of each EHT-SIG content channel is included into one or two common encoding blocks. For EHT sounding NDP, the Common field of each EHT-SIG content channel is included in a single common encoding block. Each common encoding block shall be BCC encoded at rate *R* = 1/2. For EHT-SIG for an EHT SU transmission or non-OFDMA transmission to multiple users, the Common field of each EHT-SIG content channel, together with the only User field or the first User field of the User Specific field, is included into a single common encoding block, which shall be BCC encoded at rate *R* = 1/2.

*Instruction to TGbe Editor: Update 11be D2.1.1 P700L33 as shown below:*

In EHT-SIG for an EHT SU transmission or EHT sounding NDP, *dk,n* denotes the complex number assigned to the *k*-th data subcarrier of the *n*-th symbol in the single EHT-SIG content channel.

*Instruction to TGbe Editor: Update 11be D2.1.1 P701L24 as shown below:*

for EHT-SIG for an EHT SU transmission or EHT sounding NDP.

*Instruction to TGbe Editor: Update 11be D2.1.1 P705L1 as shown below:*

EHT-SIG in an EHT SU transmission or EHT sounding NDP has a single EHT-SIG content channel regardless of the PPDU bandwidth, which is duplicated on every 20 MHz subchannel as shown in Figure 36-42 to Figure 36-46.





**Figure 36-42—EHT-SIG content channel for a 20 MHz EHT SU transmission or EHT sounding NDP**





**Figure 36-43—EHT-SIG content channel for a 40 MHz** **EHT SU transmission or EHT sounding NDP**





**Figure 36-44—EHT-SIG content channel for an 80 MHz EHT SU transmission or EHT sounding NDP**





**Figure 36-45—EHT-SIG content channel for a 160 MHz EHT SU transmission or EHT sounding NDP**





**Figure 36-46—EHT-SIG content channel for a 320 MHz EHT SU transmission or EHT sounding NDP**

**36.3.12.11.3 Preamble puncturing for EHT MU PPDUs in a non-OFDMA transmission**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P719L48 as shown below:*

NOTE—A non-OFDMA transmission includes the EHT SU transmission, PPDUs to multiple users using MU-MIMO, and an EHT sounding NDP.

*Instruction to TGbe Editor: Update 11be D2.1.1 P722L54 as shown below:*

**36.3.13.3.3 LDPC coding**

LDPC is the only FEC coding scheme in the EHT PPDU Data field for RU(s) or MRU(s) with more than 242 tones. LDPC is the only FEC coding scheme in the EHT PPDU Data field for EHT-MCSs 10 to 14. Support for LDPC coding (for both transmit and receive) is mandatory for an EHT STA that supports at least one of:

—40/80/160/320 MHz EHT SU transmissions,

— more than four spatial streams,

— any EHT-MCS from 10 to 13, or

— EHT-MCS 14.

**36.3.13.3.5 Encoding process for an EHT MU PPDU**

*Instruction to TGbe Editor: Update 11be D2.1.1 P722L54 as shown below:*

The encoding process described in this subclause applies to both an EHT SU transmission and a transmission of an EHT MU PPDU to multiple users.

**36.3.13.10 Frequency domain duplication**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P739L13 as shown below:*

For an EHT SU transmission using EHT-MCS 14, the output of the segment deparser is further duplicated to map to two RUs according to Equation (36-78) and Equation (36-79).

  (36-78)

  (36-79)

where

*m* = 1 since *NSS,r,u* = 1 for EHT-MCS 14.

*n =* 0, 1, …, *NSYM* – 1

*r* = 0, since EHT-MCS 14 is only supported in an EHT SU transmission.

*u* = 0, since EHT-MCS 14 is only supported in an EHT SU transmission.

*Instruction to TGbe Editor: Add the following subclause at 11be D2.1.1 P757L11:*

**36.3.18a EHT SU transmission**

The EHT SU transmission is an EHT MU PPDU which is transmitted to a single user with the following settings in the U-SIG field:

* The PPDU Type And Compression Mode subfield has value equal to 1.
* If the EHT-SIG MCS subfield has value equal to 0, then the Number Of EHT-SIG Symbols subfield has value greater than 0.

See also Table Table 36-29 (Combination of UL/DL and PPDU Type And Compression Mode field).

**36.4.4 EHT PHY**

…

*Instruction to TGbe Editor: Update 11be D2.1.1 P802L55 as shown below:*

**Table 36-70—EHT PHY characteristics**

|  |  |
| --- | --- |
| **Characteristics** | **Value** |
| aPPDUMaxTime | 5.484 ms |
| aPSDUMaxLength | 15 523 200 bytes |
| aRxPHYStartDelay | 32 + 4  *N*EHT-SIG µs for EHT MU PPDUs32 µs for EHT TB PPDUs |
| NOTE—This is the maximum length in octets for an EHT SU transmission using EHT-SIG MCS 1, 320 MHz bandwidth, EHT-MCS 13, 8 spatial streams, 0.8 µs GI duration, 2× 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. This is the maximum PSDU length an EHT PHY could support assuming no restrictions in MAC. See 10.12.2 and 9.2.4.6.1 for additional restrictions on the maximum number of octets the MAC could support. |

**B.4.40.1 EHT PHY features**

*Instruction to TGbe Editor: Update 11be D2.1.1 P823L38 as shown below:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Protocol capability** | **References** | **Status** | **Support** |
| **EHTP2** | **EHT PPDU formats** |  |  |  |
| EHTP2.1 | Transmission of an EHT SU transmission | 36.1.1 | CFEHT: M | Yes  No  N/A  |
| EHTP2.2 | Reception of an EHT SU transmission | 36.1.1 | CFEHT: M | Yes  No  N/A  |

*Instruction to TGbe Editor: Update 11be D2.1.1 P825L40 as shown below:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EHTP4** | **EHT LTF formats** |  |  |  |
| EHTP4.1 | Transmission and reception of an EHT SU transmission with a 2 EHT- LTF and 0.8 µs GI duration | 36.1.1 | CFEHT: M | Yes  No  N/A  |
| EHTP4.2 | Transmission and reception of an EHT SU transmission with a 2 EHT- LTF and 1.6 µs GI duration | 36.1.1 | CFEHT: M | Yes  No  N/A  |
| EHTP4.3 | Transmission and reception of an EHT SU transmission with a 4 EHT- LTF and 3.2 µs GI duration | 36.1.1 | CFEHT: M | Yes  No  N/A  |
| EHTP4.4 | Transmission and reception of an EHT SU transmission with a 4 EHT- LTF and 0.8 µs GI duration | 36.1.1 | CFEHT: O | Yes  No  N/A  |

**C.3 MIB Detail**

*Instruction to TGbe Editor: Update 11be D2.1.1 P847L36 as shown below:*

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 when receiving an EHT SU transmission."

DEFVAL { 0 }

::= { dot11PhyEHTEntry 13 }

**Z.11 EHT-SIG example 6**

*Instruction to TGbe Editor: Update 11be D2.1.1 P879L24 as shown below:*

An example of the EHT-SIG field with U-SIG overflow and resource allocation signaling for an 80 MHz DL EHT SU transmision are shown in Table Z-31 and Table Z-32 respectively.

*Instruction to TGbe Editor: Update 11be D2.1.1 P879L24 as shown below:*

An EHT SU transmission has one EHT-SIG content channel. The content of the entire EHT-SIG field for this example is shown in Table Z-33.

 [End of File]