IEEE P802.11
Wireless LANs

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| 11bn PDT-TBDs in subclause 38.4 |
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Abstract

This document contains Proposed Draft Text (PDT) for the subclause 38.4 (UHR PLME) of the proposed TGbn (UHR, Ultra High Reliability) amendment to the 802.11 standard.

**Revision information**

The following is a summary of the important changes that occurred within each revision of this document:

|  |  |
| --- | --- |
| **Revision** | **Major changes** |
| 0 | Initial revision |
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**Introduction**

Interpretation of a Motion to Adopt.

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbn Draft. The abstract, revision information, introduction, explanation of the proposed changes and references sections are not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbn Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

**Explanation of the proposed changes:**

The PHY service interface sub-clause is a composite summary of interface between all UHR PHY features and their MAC counterpart. The proposed changes to the 802.11 TGbn draft within this document are based on approved PHY feature PDTs and the following motions adopted by the TGbn task group:

**Relevant passing motions:**

*T.B.D.*

**Text to be adopted begins here.**

***TGbn editor: Please add the following new subclause 38.xxx Null subcarriers to generate the 802.11bn draft D0.1:***

# Ultra high reliability (UHR) PHY specification

### 38.4.1 PLME\_SAP sublayer management primitives

Table xxxx (UHR PHY MIB attributes) lists the MIB attributes that are accessible by the PHY entities and

the intralayer of higher level LMEs. These attributes are accessed via the PLME-GET, PLME-SET, PLMERESET, and PLME-CHARACTERISTICS primitives defined in 6.5 (PLME SAP interface).

### 38.4.2 PHY MIB

UHR PHY MIB attributes are defined in Annex C with specific values defined in Table 15-4 (MIB attribute default values/ranges), Table 16-3 (MIB attribute default values/ranges), Table 17-23 (MIB attribute default values/ranges), Table 18-4 (MIB attribute default values/ranges), Table 19-24 (HT PHY MIB attributes), Table 21-27(VHT PHY MIB attributes), Table 27-60(HE PHY MIB attributes), Table 36-69(EHT PHY MIB attributes) and Table 38-xx(UHR PHY MIB attributes). The “Operational semantics” column in Table 38-xx (UHR 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.

Table 38-xx—UHR PHY MIB attributes

|  |  |  |
| --- | --- | --- |
| Managed object | Default value/range | Operational semantics |
| dot11PHYOperationTable |
| dot11PHYType | uhr | Static |
| dot11PHYUHRTable |
| dot11UHRCurrentChannelWidth | Implementation dependent | Dynamic |
| dot11UHRCurrentChannelCenterFrequencyIndex0 | Implementation dependent | Dynamic |
| dot11UHRDisabledSubchannelBitmap | 0/0...65 535 | Dynamic |
|  |  |  |
|  |  |  |
| dot11PHYUHRCoordinatedBeamformingConfigTable |
|  |  |  |
| dot11UHRMaxNssTotalRxForDLMUMIMOLessThanOrEqualto80 | Implementation dependent | Dynamic |
| dot11UHRMaxNssTotalRxForDLMUMIMOrEqualto160 | Implementation dependent | Dynamic |
| dot11UHRMaxNssTotalRxForDLMUMIMOEqualto320 | Implementation dependent | Dynamic |
|  |  |  |
|  |  |  |
|  |  |  |
| dot11PHYNonPrimaryChannelAccesssConfigTable |
| dot11NPCAPrimaryChannel | Implementation dependent | Dynamic |
|  |  |  |

### 38.4.3 TXTIME and PSDU\_LENGTH calculation

The value of the TXTIME parameter returned by the PLME-TXTIME.confirm primitive shall be calculated

for a UHR PPDU using Equation

$\_{}\_{}\_{}\_{}$ (TBD)

where

$\_{}\_{}$ is defined as in Equation (TBD)

$SignalExtension$ takes the value of aSignalExtension as defined in Table xxxx

For a UHR MU PPDU, the total number of data OFDM symbols,$N\_{sym}$,is given in 38.3.16.1.5(Encoding process for an UHR MU PPDU)

For a UHR TB PPDU, the total number of data OFDM symbols,$N\_{sym}$,is given in 38.3.16.1.6(Encoding process for an UHR TB PPDU)

For an UHR ELR PPDU, the total number of data OFDM symbols,$\_{}$,is given in 38.3.16.1.7(Encoding process for an UHR ELR PPDU)

The value of the PSDU\_LENGTH parameter for user u returned in the PLME-TXTIME.confirm primitive and RXVECTOR for a UHR TB PPDU and a UHR MU PPDU is calculated same to the description in 36.4.3(TXTIME and PSDU\_LENGTH caculation).

The value of the PSDU\_LENGTH parameter for user u returned in the PLME-TXTIME.confirm primitive for a UHR ELR PPDU is calculated using Equation (TBD) and Equation (TBD) for users using BCC and LDPC, repectively.

$$\_{}\left⌊\frac{\_{}\_{}\_{}\_{}}{}\right⌋$$

$$\_{}\left⌊\frac{\_{}\_{}\_{}}{}\right⌋$$

where

$\_{}$ is given by Equation (...)

$\_{}$ is given in Table 38-17(Frequently used parameters)

For an UHR ELR PPDU, the value of the RXVECTOR parameter PSDU\_LENGTH returned for user u is calculated using Equation (xx-xx).

$$\_{}\left⌊\frac{\_{}\_{}\_{}\_{}}{}\right⌋$$

where

$\_{}$ is given by Equation(xx-xx)

$\_{}$ and $\_{}$ are defined in Table xx-xx(Timing-related constants)

if the user u is using LDPC coding, the LDPC Extra Symbol Segment field of ELR-SIG is equal to 1

$\_{}\left\{\begin{array}{c}\_{}\\\\\_{}\end{array}\right.$

otherwise

where

$\_{}$ is given by Equation (...)

### 38.4.4 UHR PHY

The static UHR PHY characteristics are provided through the PLME-CHARACTERISTICS service primitive.If listed in Table 38-xx (UHR PHY characteristics), then the static UHR PHY characteristics shall be as shown in Table 38-xx (UHR PHY characteristics). Otherwise, If listed in Table 36-70 (EHT PHY characteristics), then the static EHT PHY characteristics shall be as shown in Table 36-70(EHT PHY characteristics). Otherwise, if listed in Table 27-61 (HE PHYcharacteristics), then the static UHR PHY characteristics shall be as shown in Table 27-61 (HE PHY characteristics). Otherwise, the static UHR PHY characteristics shall be as shown in Table 19-25 (HT PHY characteristics). The definitions for these characteristics are given in 6.5(PLME SAP interface).

Table 38-xx—UHR PHY characteristics

|  |  |
| --- | --- |
| Characteristics | Value |
| aPPDUMaxTime | 5.484 ms |
| aPSDUMaxLength | 15 523 198 bytes |
| aRxPHYStartDelay | $\_{}$ for UHR MU PPDU32 µs for UHR TB PPDUs |
|  |  |

**Text to be adopted ends here.**

**References:**

1. 11-25-0014-13: 11-25-0014-13-00bn-tgbn-motions-list-part-2, Alfred Asterjadhi (Qualcomm Inc.)
2. 802.11 bn Draft 0.2