IEEE P802.11
Wireless LANs

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|  PDT MAC UHR BSS Operation |
| Date: 2025-01-02 |
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Abstract

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

Revisions:

* Rev 0: Initial version of the document.
1. **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 introduction and the explanation of the proposed changes 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).***

***TGbn Editor: Editing instructions preceded by “TGbn Editor” are instructions to the TGbn editor to modify existing material in the TGbn draft. As a result of adopting the changes, the TGbn editor will execute the instructions rather than copy them to the TGbn Draft.***

1. **Proposed spec text**

***TGbn editor: Please add the following subclause 37.3 UHR BSS operation in 802.11bn D0.1:***

37.3 UHR BSS operation

**37.3.1 Basic UHR BSS operation**

An UHR STA has dot11UHROptionImplemented equal to true.

A STA that is operating in an UHR BSS shall be able to receive and transmit at each of the <UHR-MCS, NSS> tuple values indicated by the Basic UHR-MCS And NSS Set field of the UHR Operation parameter of the MLME-START.request primitive and shall be able to receive at each of the <UHR-MCS, NSS> tuple values indicated by the Supported UHR-MCS and NSS Set field in the UHR Capabilities parameter of the MLME-START.request primitive.

The basic UHR-MCS and NSS set is the set of <UHR-MCS, NSS> tuples that are supported by all UHR STAs that are members of an UHR BSS. The basic UHR-MCS and NSS set is established by the STA that starts the UHR BSS, and is indicated by the Basic UHR-MCS And NSS Set field of the UHR Operation parameter in the MLME-START.request primitive. Other UHR STAs determine the basic UHR-MCS and NSS set from the Basic UHR-MCS And NSS Set field of the UHR Operation element in the BSS Description derived through the scan mechanism (see 11.1.4.1 (General)).

An UHR STA shall not attempt to join (MLME-JOIN.request primitive) a BSS unless it supports (i.e., is able to both transmit and receive using) all of the <UHR-MCS, NSS> tuples in the basic UHR-MCS and NSS set.

If an UHR STA supports transmitting or receiving a PPDU, where the PPDU bandwidth is less than 320 MHz, at an <UHR-MCS, NSS> tuple, where the UHR-MCS is equal to the HE-MCS and less than 12, then it shall also support the corresponding transmitting or receiving <HE-MCS, NSS> tuple, respectively. For an UHR-MCS that is less than an HE-MCS, the UHR STA shall support an NSS that is equal to or greater than the NSS that it supports for a higher UHR-MCS.

A STA operating in the 2.4 GHz band that sets dot11UHROptionImplemented to true shall set dot11EHTOptionImplemented, dot11HEOptionImplemented, dot11HighThroughputOptionImplemented to true. A STA operating in the 5 GHz or 6 GHz band that sets dot11UHROptionImplemented to true shall set dot11EHTOptionImplemented, dot11HEOptionImplemented, dot11VHTOptionImplemented and dot11HighThroughputOptionImplemented to true. A non-AP STA that sets dot11UHROptionImplemented to true shall set dot11-MultiBSSIDImplemented to true.

An UHR STA operating in the 6 GHz band is a VHT STA except that it is exempt from following VHT and HT functionalities and/or requirements that are not applicable or that are superseded by equivalent HE functionalities and/or requirements (see Clause 26 (High Efficiency (HE) MAC specification) and Clause 27 (High Efficiency (HE) PHY specification)), or equivalent EHT functionalities and/or requirements (see Clause 35 (Extremely high throughput (EHT) MAC specification) and Clause 36 (Extremely high throughput (EHT) PHY specification), or equivalent UHR functionalities and/or requirements (see Clause 37 (Ultra high reliability (UHR) MAC specification) and Clause 38 (Ultra high reliability (UHR) PHY specification), and that it shall use the HE format, EHT format or UHR format instead of the VHT, HT\_GF, or HT\_MF format for PPDUs transmitted in the 6 GHz band. for the 6 GHz band are defined in 26.17.2 (HE BSS operation in the 6 GHz band).

A non-AP UHR STA follows the procedures in 11.1.3.8.3 (Discovery of a nontransmitted BSSID profile) for efficient discovery during scanning and to save power after association if the peer AP is operating as an EMA AP.

An UHR AP shall not assign an AID value of 2007 to any STA or non-AP MLD.

The UHR BSS operating channel width is the same as EHT BSS operating channel width as defined in 35.15.1 (Basic EHT BSS operation).

If a UHR BSS operating channel width is announced in the EHT Operation element, then an UHR AP shall announce the BSS operating channel width(s) to non-EHT non-AP STAs with the following restrictions:

—The announced BSS operating channel width(s) to non-EHT non-AP STAs are less than the BSS operating channel width in the EHT Operation element and the corresponding BSS shall not operate as an 80+80 MHz BSS.

—If the Disabled Subchannel Bitmap subfield in the EHT Operation element is present, the announced BSS operating channel width(s) to non-EHT non-AP STAs is the maximum width including the primary channel without covering any punctured 20 MHz subchannel indicated in the Disabled Subchannel Bitmap subfield in the EHT Operation element as defined in 35.15.2 (Preamble puncturing operation).

An UHR STA shall set

—the Supported Channel Width Set subfield in the HT Capabilities element (carried outside the Multi-Link element),

—the Supported Channel Width Set and the Extended NSS BW Support subfields in the VHT Capabilities element (carried outside the Multi-Link element),

—the Supported Channel Width Set subfield in the HE Capabilities element (carried outside the Multi-Link element), and

—the Support For 320 MHz In 6 GHz subfield in the EHT Capabilities element (carried outside the Multi-Link element)

as shown in Table 35-7 (Indication of supported channel widths by an EHT STA) to include the channel widths it is capable of supporting.

**C.3 MIB Detail**

***Change Dot11StationConfigEntry (not all lines shown) as follows:***

Dot11StationConfigEntry ::= SEQUENCE

{

dot11StationID MacAddress,

…

dot11UHROptionImplemented TruthValue,

}

***Insert the following***

dot11UHROptionImplemented 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 indicates whether the entity is UHR capable."

::= { dot11StationConfigEntry xxx }