### IEEE P802.11 Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PDT CR MAC for DSO CC50 | | | | |
| Date: 2025-07-31 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Morteza Mehrnoush | Apple |  |  | morteza.mehrnoush@apple.com |

Abstract

This document contains PDT for the Dynamic Subband Operation (DSO) feature 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 |
| 1 | Addressed some editorial comments |
| 2 | Addressed some editorial comments and changed the name of frames |
| 3 | - Changed the definition of the DSO Padding delay field - Update based on editorial comments |
| 4 | Update for DSO mode enablement procedure to simplify it per comments received |
| 5 | Some editorial changes |
| 6 | Added another possibility for 20MHz-only STA to use DSO where it can be scheduled in the secondary 20MHz of the 80MHz PPDU. Also, some editorial changes. |
| 7 |  |

# 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, discussion 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).***

***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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **line** | **Comment** | **Proposed Change** | **Resolution** |
| 1241 | 37 |  |  | Define a procedure to enable/disable DSO mode. Also define the signaling for enabling/disabling the mode | Please define the request in comment as specified in submission 11-24-2054. | Revised  Discussion: agree with the commenter in general. The enablement procedure and parameters needed for DSO is defined.  TGbn editor: please make the change with the tag #1241 in 11-25/1164r6. |
| 1245 | 37 |  |  | Define the DSO subband BWs and what is the location of the secondary channels BW within BSS BW | Please define the request in comment as specified in submission 11-24-2054. | Revised  Discussion: agree with the commenter in general. The possible location of DSO subband and BW of the non-AP STA that can perform DSO is defined.  TGbn editor: please make the change with the tag #1245 in 11-25/1164r6. |
| 1250 | 37 |  |  | Define the puncturing rules for DSO and within the DSO TXOP | As in comment |  |

***Discussion:*** *The proposed draft text covers the allowed bandwidth of the non-AP STAs for DSO mode and the DSO subband determinaton for each non-AP STA’s bandwidth. It also covers the enablement procedure based on the general enablement procedure discussed within the group.*

# Text to be adopted begins here:

37. Ultra High Reliability (UHR) MAC specification

**37.19 Dynamic Subband Operation**

***TGbn editor: Please insert the following after the 3rd paragraph of the 37.19 Dynamic Subband Operation in 802.11bn D0.3:***

(#1245) 20 MHz-only UHR STAs, 80 MHz operating UHR STAs, and 160 MHz operating UHR STAs can be DSO non-AP STAs. The DSO ICF-ICR exchange and the PPDUs following it shall only be transmitted between UHR STAs. The following rules apply to DSO subbands:

* For a 20 MHz-only non-AP STA, only the secondary 20 MHz channel of a 40 MHz PPDU (in a 40 MHz, 80 MHz, 160 MHz, or 320 MHz BSS) or the secondary 20 MHz channel of an 80 MHz PPDU (in an 80 MHz, 160 MHz, or 320 MHz BSS) shall be a DSO subband.
* For an 80 MHz operating non-AP STA:
  + The secondary 80 MHz channel in 160 MHz BSS shall be a DSO subband.
  + Only one of the 80 MHz subbands outside of the primary 80 MHz in 320 MHz BSS (i.e. either of the secondary 80 MHz channel, lower 80 MHz of secondary 160 MHz channel, or upper 80 MHz of secondary 160 MHz channel) shall be a DSO subband,
  + 320 MHz AP can assign any one of the three possible 80 MHz DSO subbands (i.e. secondary 80 MHz channel, lower 80 MHz of secondary 160 MHz channel, and upper 80 MHz of secondary 160MHz channel) to each 80 MHz non-AP STA.
* For a 160 MHz operating non-AP STA, the secondary 160 MHz channel in 320 MHz BSS shall be a DSO subband.

(#1241)A UHR non-AP STA that supports DSO and intends to enable DSO, disable DSO or update the parameters of DSO mode shall follow the procedure defined in 37.X (Procedure for operating mode and parameter updates). A UHR non-AP STA shall include the following parameters in the OMP request sent to enable DSO or update the parameters of DSO mode for the non-AP STA:

* The DSO Padding Delay field, which indicates the minimum MAC padding duration that is required by a DSO non-AP STA in an ICF to cause the non-AP STA to switch from the primary subband to the DSO subband,
* The DSO Switch Back Delay field, which indicates time required by the DSO non-AP STA to switch from the DSO subband to the primary subband,
* If the non-AP STA’s bandwidth is 80 MHz and associated AP’s BSS bandwidth is 320 MHz, the Preferred 80 MHz DSO Subband field, which indicates the non-AP STA’s preferred 80 MHz DSO subband.

NOTE – For a non-AP STA to enable DSO mode, the associated AP must support DSO (see 37.X (Procedure for operating mode and parameter updates)).

(#1241)The associated AP shall accept the DSO enablement request and follow the procedure defined in 37.X (Procedure for operating mode and parameter updates), except when an 80 MHz non-AP STA is enabling DSO mode with a 320 MHz BSS AP. In that case the following procedure shall be used for 80 MHz DSO subband assignment and mode enablement:

* The non-AP STA indicates the following in the OMP request to enable DSO mode:
  + One preferred 80 MHz DSO subband in the Preferred 80 MHz DSO Subbands field.
* The DSO AP shall select the offered 80 MHz DSO subband for the non-AP STA. If AP’s offered 80 MHz DSO subband indicated in the OMP response is:
  + The same as the non-AP STA’s preferred 80 MHz DSO subband,
    - The AP shall accept the DSO enablement request and follow the procedure defined in 37.X (Procedure for operating mode and parameter updates).
    - The Offered 80 MHz DSO Subband field shall not be included in the OMP response, if the AP transmits the OMP response.
  + Different from the non-AP STA’s preferred 80 MHz DSO subband,
    - The AP shall accept the DSO enablement request and transmit the OMP response before the expiration of the transition timeout. The Offered 80 MHz DSO Subband field shall be included in the OMP response.
    - The non-AP STA that receives the OMP response, shall either accept the AP’s offered 80 MHz DSO subband or reject the AP’s offered 80 MHz DSO subband by transmiting an OMP confirm. The non-AP STA shall transmit an OMP confirm when it is ready to operate in the offered 80 MHz DSO subband if it accepts the AP’s offered 80 MHz DSO subband. In this case, DSO mode is enabled immediately after the acknowledgment to the OMP confirm.

# Text to be adopted ends here.

**SP: Do you agree** **to incorporate the proposed text changes for DSO in 11-25/1164r0 to the latest TGbn draft?**