### IEEE P802.11 Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PDT CR MAC for DSO CC50 | | | | |
| Date: 2025-07-17 | | | | |
| 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 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 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 #1241 tag in this document. |
| 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 #1245 tag in this document. |
| 1250 | 37 |  |  | Define the puncturing rules for DSO and within the DSO TXOP | As in comment | Revised  Discussion: agree with the commenter in general…  TGbn editor: please make the change with #1250 tag in this document. |

***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 bandwidth UHR STAs, and 160 MHz operating bandwidth 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 subband(s):

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

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

* DSO Padding Delay subfield that indicates the time required by the DSO non-AP STA to switch from the primary subband to the DSO subband,
* DSO Switch Back Delay subfield that indicates time required by the DSO non-AP STA to switch from the DSO subband to the primary subband,
* Only if non-AP STA’s bandwidth is 80 MHz and associated AP’s BSS bandwidth is 320 MHz, then include:
  + Supported 80 MHz DSO Subbands subfield that indicates the non-AP STA’s supported 80 MHz DSO subband(s) for DSO.
  + Preferred 80 MHz DSO Subband subfield that indicates the non-AP STA’s single preferred 80 MHz DSO subband within the non-AP STA’s supported 80 MHz DSO subband(s).

NOTE – For a non-AP STA to enable the 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 the DSO mode with a 320MHz BSS AP where in that case the following procedure shall be used for 80 MHz DSO subband assignment and mode enablement:

* The AP shall announce the following:
  + List of supported 80 MHz DSO subbands within its BSS bandwidth in the AP’s Supported 80 MHz DSO Subbands field.
  + A default 80 MHz DSO subband among the list of supported 80 MHz DSO subbands in the Default 80 MHz DSO Subband field.
* The non-AP STA indicates the following in the management request frame to enable DSO mode:
  + One or more supported 80 MHz DSO subband(s) in the Supported 80 MHz DSO Subbands field. The supported 80 MHz DSO subband(s) shall be within the list of AP’s supported 80 MHz DSO subbands.
  + One preferred 80 MHz DSO subband in the Preferred 80 MHz DSO Subbands field which shall be within the supported 80 MHz DSO subband(s)
* The DSO AP shall select a single offered 80 MHz DSO subband for the non-AP STA. If the preferred 80 MHz DSO subband of non-AP STA indicated in the management request frame is:
  + The default 80 MHz DSO subband, then:
    - The 80 MHz DSO subband shall be the default 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 is not included in the management response frame, if the AP transmits the management response frame.
  + Not the default 80 MHz DSO subband, and AP’s offered 80 MHz DSO subband is the same as non-AP STA’s preferred 80 MHz DSO subband, then:
    - 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 is not included in the management response frame, if the AP transmits the management response frame.
  + Not the default 80 MHz DSO subband, and AP’s offered 80 MHz DSO subband is different than non-AP STA’s preferred 80 MHz DSO subband but within the non-AP STA’s supported 80 MHz subband(s), then:
    - AP shall accept the DSO enablement request and shall transmit the management response frame before the expiration of the transition timeout. The Offered 80 MHz DSO Subband field is included in the management response frame.
    - The non-AP STA that receives the management response frame, shall accept AP’s offered 80 MHz DSO subband and transmit a confirmation management frame when it is ready to operate in the offered 80 MHz DSO subband. In such a case, DSO mode is enabled immediately after the acknowledgment to the confirmation management frame.
  + Not the default 80 MHz DSO subband, and AP’s offered 80 MHz DSO subband is different than non-AP STA’s preferred 80 MHz DSO subband and it is not within the non-AP STA’s supported 80 MHz subband(s), then:
    - AP shall accept the DSO enablement request and shall transmit the management response frame before the expiration of the transition timeout. The Offered 80 MHz DSO Subband field is included in the management response frame.
    - The non-AP STA that receives the management response frame may reject AP’s offered 80 MHz DSO subband by transmiting a confirmation management frame which carries the rejection status code.

# 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?**