IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Comment Resolution for CID 322 | | | | |
| Date: 2025-07-23 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Rethna Pulikkoonattu | Broadcom | 16340 W Bernardo Dr, San Diego, CA, 92127 |  | rethna@broadcom.com |
| Alfred Asterjadhi | Qualcomm |  |  |  |
| Lin Yang | Qualcomm |  |  |  |

Abstract

This submission contains proposed comment resolutions to comments on P802.11bn D0.1. The changes are based on P802.11bn D0.1.

The submission provides resolutions to the following CIDs

322

Revisions:

* Rev 0: Initial version of the document.
* Updated with the passed MAC motion

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 322 | 158.18 | 38.3.15.8.1 | "The value of BSS\_COLOR ranges from 0 to 63". More correct to say 1 to 63. | "The value of BSS\_COLOR ranges from 0 to 63". More correct to say 1 to 63. | Revised  Note: BSSCOLOR in U-SIG has 6 bits. Since color=0 matches all recepients, it is appropriate to assign 1 to 63 as distinct colors and leave 0 as special case. PAC PDT 37.11.5 now dis-allows BSSCOLOR=0 for ELR. The first row of the mark matrix thus to be treated as reserved and will not be used for mark field.  CR #322  Instruction to the editor:  Make changes according to the revised document 11-25/0892r2 |

**Instruction to the editor:** The sentence marked in skyblue color to be inserted. The highlighted portion to be soft-hyperlinked.

**CR # 322**

## 38.3.14.8 ELR-MARK

The ELR-MARK field in the ELR preamble provides additional signaling to distinguish a UHR ELR PPDU from other PPDUs. It helps to improve the detection by utilizing predefined tone patterns for cross-correlation, enhancing performance in low-SNR environments, and enabling coherent combining across multiple receiving antennas.

Additionally, the ELR-MARK field includes a unique identifier BSS\_COLOR, indicating the station’s BSS color. The value of BSS\_COLOR ranges from 1 to 63 (see 35.11.1.4 BSS\_COLOR). A 64 × 96 matrix Ḧ, called ELR-MARK matrix, specifies 64 orthogonal sequences. Each row corresponds to a BSS Color, while each column corresponds to the data conveyed over each subcarrier of the two ELR-MARK symbols. These orthogonal sequences allow STAs to determine if the UHR ELR PPDU is from OBSS. The first row of the ELR-MARK matrix is reserved and shall not be used in the ELR-MARK field as BSS\_COLOR=0 is disallowed for ELR PPDUs.

# References

1. <https://mentor.ieee.org/802.11/dcn/25/11-25-0915-02-00bn-pdt-cr-for-elr-mac.docx>

# Appendix

**The relevant draft section discussing the BSS\_COLOR in [1] is highlighted below.**

**37.4 UHR BSS operation**

***TGbn editor: Insert the following subclause:***

**37.4.2 Enhanced long range (ELR) operation***[#1252, 3645, 1127]*

A UHR STA that supports transmitting an ELR PPDU shall set the ELR Tx Support field to 1 in the UHR Capabilities element.

A UHR STA that supports receiving an ELR PPDU shall set the ELR Rx Support field to 1 in the UHR Capabilities element.

A UHR STA operating in the 2.4 GHz band may set dot11EnhancedLongRangeTxActivated to true if the ELR Tx Support field is equal to 1 in the UHR Capabilites element transmitted by the STA; otherwise, the STA shall set the dot11EnhancedLongRangeTxActivated to false.

A UHR non-AP STA operating in the 5 GHz or 6 Ghz bands may set dot11EnhancedLongRangeTxActivated to true if the ELR Tx Support field is equal to 1 in the UHR Capabilities element transmitted by the STA; otherwise, the STA shall set the dot11EnhancedLongRangeTxActivated to false.

A UHR AP operating in the 5 GHz or 6 GHz bands shall set dot11EnhancedLongRangeTxActivated to false.

A UHR STA with dot11EnhancedLongRangeTxActivated equal to false shall not transmit an ELR PPDU.

A UHR STA with dot11EnhancedLongRangeTxActivated equal to true may transmit an ELR PPDU to a UHR peer STA has set the ELR Rx Support field to 1 in the UHR Capabilities element and the peer STA has enabled reception of ELR PPDUs.

A UHR STA with dot11EnhancedLongRangeTxActivated equal to true shall not transmit an ELR PPDU to a peer STA if the UHR Capabilities element received from the peer STA has the ELR Rx Support field equal to 0 or if the peer STA has disabled reception of ELR PPDUs.

A UHR non-AP STA that supports the reception of ELR PPDUs and that intends to enable the reception of ELR PPDUs shall follow the procedure defined in 37.X (Procedure for operating mode and parameter updates).

A UHR AP that supports the reception of ELR PPDUs and that intends to enable the reception of ELR PPDUs shall follow the procedure defined in 37.Y(??).

A UHR STA that intends to transmit an ELR PPDU shall ensure that:

– The TXVECTOR parameters STA\_ID, UPLINK\_FLAG, and TXOP\_DURATION are set as defined in 26.11 for HE ER SU PPDUs,

– The TXVECTOR parameter BSS\_COLOR is set to the nonzero value of the BSS Color subfield of the most recently received HE Operation element exchanged within the BSS

* The TXVECTOR parameter MCS indicates either UHR-MCS0 or UHR-MCS1 unless the ELR PPDU carries a control response frame in which case the TXVECTOR parameter MCS indicates UHR-MCS0.

– The frame(s) carried in the ELR PPDU shall be individually addressed to the peer STA.

NOTE – The value 0 for the TXVECTOR parameter BSS\_COLOR is disallowed for ELR PPDUs (i.e., only the active BSS color can be used))

A UHR STA that responds to an ELR PPDU shall use CBW20 for the PPDU that carries the response frame.