IEEE P802.11  
Wireless LANs

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| Resolution for comments received for LB291 on D1.0 for subclause 38.3.15.12 | | | | |
| Date: 2025-10-20 | | | | |
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Abstract

This submission contains proposed comment resolutions to comments on P802.11bn D1.0. The changes are based on P802.11bn D1.1.

The submission provides resolutions to the following 8 CIDs in the ELR-SIG subclause 38.3.15.12

4064, 4065,4066, 4068, 8842, 8951, 9972, 10198

Revisions:

* Rev 0: Initial version of the document.

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| **CID** | **Commenter** | **Clause Number(C)** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 4064 | Ke Zhong | 38.3.15.12.2 | 425.35 | The following sentences are missing a period: "Set to 0 for UHR MCS 0" and "Set to 1 for UHR MCS 1". | As in comment. | Accepted |
| 4065 | Ke Zhong | 38.3.15.12.2 | 425.42 | A period is missing at the end of the sentence "Set to 1 for LDPC with nominal codeword length of 648, 1296 or 1944". | As in comment. | Accepted |
| 4066 | Ke Zhong | 38.3.15.12.2 | 425.54 | A period is missing at the end of the sentence "Set to 0 if an LDPC extra symbol is not present". | As in comment. | Accepted |
| 4068 | Ke Zhong | 38.3.15.12.3 | 426.61 | Missing periods at the end of the definitions for "T\_SYM, ELR-SIG", "N\_ST", "p\_n", and "M\_r(k)". | Add periods at the end of the definitions for "T\_SYM, ELR-SIG", "N\_ST", "p\_n", and "M\_r(k)". | Revised  Add periods at the end of the definitions for "T\_SYM, ELR-SIG", "p\_n", and "M\_r(k)". The definition of “N\_ST” is removed according to CID 9972.  **Instruction to editor:**  Apply the changes marked as (#4068) in 11-25/1837r0 |
| 8842 | Sigurd Schelstraete | 38.3.15.12.1 | 424.55 | Missing article "interpret UHR ELR PPDU" | Change to "interpret a UHR ELR PPDU" | Accepted |
| 8951 | JUNG HOON SUH | 38.3.15.12.2 | 425.32 | Change as in the Proposed Change | Set to 0 for UHR ELR-MCS 0 Set to 1 for UHR ELR-MCS 1 | Rejected  There is no UHR ELR-MCS0 and UHR ELR-MCS1 defined in 802.11bn yet. |
| 9972 | Juan Fang | 38.3.15.12.3 | 426.50 | to be consistance between Eq.(38-38) and Eq.(38-60), change "sqrt(N\_ST)" in Eq.(38-38) to "2sqrt(|K\_RU52\_r|) | change "sqrt(N\_ST)" in Eq.(38-38) to "2sqrt(|K\_RU52\_r|)" as in Eq.(38-60) and remove line 63-64 | revised    Agree with the comment, but change the proposed change from “ to “”, since r is a variable  **Instruction to editor:**  Apply the changes marked as (#9972) in 11-25/1837r0 |
| 10198 | Hemamali Gorthi | 38.3.15.12.2 | 425.33 | "Table 38-41--ELR-SIG field of a UHR ELR PPDU" - We propose to change the number of bits to 2 to represent MCS Field | "Table 38-41--ELR-SIG field of a UHR ELR PPDU" - We propose to change the number of bits to 2 to represent MCS Field | Rejected  There are only two MCSs defined for ELR, 1 bit is good enough so far and it can be carried in ELR-SIG-1, which allows the receiver to get MCS information earlier and prepare the data reception. We can change to 2 bits in future if needed. |

**Instruction to editor:**

Please apply the following changes marked with trackchange in 38.3.15.12 of D1.1.

* ELR-SIG
* General

The ELR-SIG field carries information necessary to interpret a(#8842) UHR ELR PPDU. The integer fields of the ELR-SIG field are transmitted in unsigned binary format, LSB first, where the LSB is in the lowest numbered bit position.

* Content

The ELR-SIG field for a UHR ELR PPDU contains the fields listed in Table38-41 (ELR-SIG field of a UHR ELR PPDU).

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| * ELR-SIG field of a UHR ELR PPDU (continued) | | | | |
| Two parts of ELR-SIG | Bit | Field | Number of bits | Description |
| ELR-SIG-1 | B0 | ELR Version Identifier | 1 | Differentiate between different ELR versions.  Set to 0 for UHR ELR PPDU.  Value 1 is Validate. |
|  | B1 | UL/DL | 1 | Indicates whether the UHR ELR PPDU is sent in UL or DL. Set to the TXVECTOR parameter UPLINK\_FLAG.  A value of 1 indicates the UHR ELR PPDU is addressed to an AP.  A value of 0 indicates the UHR ELR PPDU is addressed to a non-AP STA. |
|  | B2 | MCS | 1 | Indicates the MCS used for modulating the ELR-Data field:  Set to 0 for UHR MCS 0.  Set to 1 for UHR MCS 1.(#4064) |
|  | B3 | Coding | 1 | Indicates whether BCC or LDPC is used:  Set to 0 for BCC.  Set to 1 for LDPC with nominal codeword length of 648, 1296 or 1944. (#4065) |
|  | B4–B12 | Length | 9 | Indicates the number of ELR-Data symbols. Set to a value that is the number of ELR-Data symbols minus 1. |
|  | B13 | LDPC Extra OFDM Symbol | 1 | Indicates the presence of the LDPC extra symbol:  Set to 1 if an LDPC extra symbol is present.  Set to 0 if an LDPC extra symbol is not present,(#4066) |
|  | B14–B17 | CRC | 4 | CRC for bits 0–13 of the ELR-SIG-1 field. The CRC computation uses the same polynomial as that in 27.3.11.7.3 (CRC computation). |
|  | B18–B23 | Tail | 6 | Used to terminate the trellis of the convolutional decoder.  Set to 0. |
| ELR-SIG-2 | B0–B10 | STA-ID | 11 | Set to a value of the TXVECTOR parameter STA-ID (see 35.11.1.1 (STA\_ID)). |
|  | B11-B13 | Disregard | 3 | Set to all 1s and treat as Disregard. |
|  | B14–B17 | CRC | 4 | CRC for bits 0–13 of the ELR-SIG-2 field. The CRC computation uses the same polynomial as that in 27.3.11.7.3 (CRC computation). |
|  | B18–B23 | Tail | 6 | Used to terminate the trellis of the convolutional decoder.  Set to 0. |

* Encoding and modulation

For a UHR ELR PPDU, the ELR-SIG field is composed of two parts, the ELR-SIG-1 and ELR-SIG-2 subfields, each containing 24 uncoded data bits as described in Table38.3.15.12.2 (Content). The ELR-SIG-1 field is transmitted before the ELR-SIG-2 field. The data bits of the ELR-SIG OFDM symbols shall be BCC encoded separately for each of the OFDM symbols at rate R=1/2, interleaved, mapped to a BPSK constellation, and have pilots inserted following steps described in 38.3.10.11 (Construction of ELR-SIG).

ELR-SIG is transmitted using the same tone plan, same frequency domain duplication, and phase rotation as the Data field in UHR ELR PPDU, as shown in 38.3.16.9 (Frequency domain duplication).

The time domain waveform for the ELR-SIG field of a UHR ELR PPDU, transmitted on transmit chain , , shall be as specified in Equation(38-38).



where

 is defined in Table38-18 (Timing-related constants).(#4068)

 is the data and pilot subcarrier index sets for the *r*-th 52-tone RU and is defined in Table 27-8 (Data and pilot subcarrier indices for RUs in a 20 MHz HE PPDU and in a non-OFDMA 20 MHz HE PPDU(11ax)) based on the PPDU BW, which is 20 MHz.

 is defined in 17.3.5.10 (OFDM modulation).(#4068)

 is the pilot mapping for subcarrier *k* for symbol *n* as defined in Equation (27-102).

 is the guard interval duration as defined in Table38-18 (Timing-related constants).

 is defined in 38.3.14.4 (Transmitted signal) and *u* = 0 since UHR ELR PPDU supports only one user.

 is the transmitted constellation at subcarrier *k* in the *r*-th 52-tone RU of the *n*-th OFDM symbol and is defined by Equation(38-39)



where  is defined in Table 27-40 (Pilot indices for 52-tone RU transmission) based on the PPDU BW, which is 20 MHz.







where 

 is defined in Equation(38-40)

* .(#4068)

where

* 

NOTE—  translates a subcarrier index () into the index of data symbols in a transmission over r-th 52-tone RU, (). The subcarrier index *k* for the data subcarrier is first offset by the minimum value of subcarrier index (for the lower edge subcarrier) in this RU and number of the unoccupied tones, and then subtracted by the number of pilot subcarriers falling in between the data subcarrier and the edge subcarrier.