IEEE P802.11
Wireless LANs

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| CC36 Comment Resolution on U-SIG Part 7 |
| Date: 2022-03-09 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Alice Chen | Qualcomm |  |  | alicel@qti.qualcomm.com |
| Sameer Vermani | Qualcomm |  |  | svverman@qti.qualcomm.com |
| Youhan Kim | Qualcomm |  |  | youhank@qti.qualcomm.com |
| Bin Tian | Qualcomm |  |  | btian@qti.qualcomm.com |
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Abstract

This submission proposes resolutions for the following comments from the CC36 on P802.11be D1.0: Remaining comments in 36.3.12.7 U-SIG, and an addtional CID 4568.

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version. Resolve CIDs 4568, 4602, 4603, 8007.

# CID 4602, 4603, 8007

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 8007 | 36.3.12.7 | 410.44 | TXOP is a single field, but the definition treats it as two separate fields, which is a bit confusing.Suggesting a different wording. | Change the content of the "Description" column on the "TXOP" row in Table 36-28 (P410L44), Table 36-31(P418L39) and Table 36-32(P423L11) as follows:"If the value of the TXVECTOR parameter TXOP\_DURATION is UNSPECIFIED, then set to 127.If the value of the TXVECTOR parameter TXOP\_DURATION is less than 512, then TXOP = 2 x floor(TXOP\_DURATION/8).Otherwise, TXOP = 2 x floor((TXOP\_DURATION - 512)/128) + 1.NOTE - When the TXVECTOR parameter TXOP\_DURATION is an integer value,B13 indicates TXOP length granularity (0 and 1 indicating 8 us and 128 us, respectively).And B14-B19 indicates the scaled value of the TXOP\_DURATION." | Revised.Agree that the wording could be improved, and the formulas need to be changed to be consistent to the proposed change according to resolution to CID 7988.For the TXOP subfield in the U-SIG field in an EHT MU PPDU (Table 36-28) and that in an EHT TB PPDU (Table 36-31), revise according to the proposed change with minor revision in wording. Remove the NOTE which may be confusing. In fact, the entire 7-bit TXOP subfield, instead of B14-B19, is a scaled version of the TXOP\_DURATION. Since we no longer separately use B13 and B14-B19, the NOTE may be confusing.For the TXOP subfield in the U-SIG field in an ER preamble (Table 36-32), note that the TXVECTOR and RXVECTOR parameter TXOP\_DURATION is not defined (because the corresponding FORMAT is not defined). Since the TXOP is one of the Version Independet fields, its definition should be consistent. Therefore, in the description in the TXOP field in Table 36-32, we don’t describe how the TXOP subfield is being set according to the TXVECTOR parameter TXOP\_DURATION, but describe how to derive the TXOP duration information from the TXOP subfield.*Tgbe Editor: Please make changes for CID 8007 as shown in the following document*[*https://mentor.ieee.org/802.11/dcn/22/11-22-0472-00-00be-cc36-comment-resolution-on-u-sig-part-7.docx*](https://mentor.ieee.org/802.11/dcn/22/11-22-0472-00-00be-cc36-comment-resolution-on-u-sig-part-7.docx) |
| 4602 | 36.3.12.7 | 410.52 | If individual bits within a field need to be identified, then that's a sure sign that something is wrong. Here we have a field that clearly has the form of a floating point number in units of 8us with a special "NaN" value and otherwise a 1 bit exponent (base 32), and a 6 bit mantissa. | Split TXOP into a 1bit and a 6 bit field with suitable names (e.g. TXOP\_EXPONENT\_BASE32 and TXOP\_MANTISSA). In the RHS column, keep the two rows merged, and try:TXOP\_EXPONENT\_BASE32 is set to 1 and TXOP\_MANTISSA is set to 63 to indicate no duration information if the TXVECTOR parameter TXOP\_DURATION is UNSPECIFIED; otherwise indicate duration information for NAV setting and protection of the TXOP as a floating point number with a 1-bit base-32 exponent and a 6-bit mantissa, in units of 8 µs, as follows:If the TXVECTOR parameter TXOP\_DURATION is less than 512, thenTXOP\_EXPONENT\_BASE32 is set to 0 and TXOP\_MANTISSA is set to floor(TXOP\_DURATION/8).Otherwise, TXOP\_EXPONENT\_BASE32 is set to 1 and TXOP\_MANTISSA is set to floor((TXOP\_DURATION-32\*8)/(32\*8)).NOTE--If TXOP\_EXPONENT\_BASE32 and TXOP\_MANTISSA are not set to 1 and 63 respectively, then the indicated TXOP duration equals TXOP\_MANTISSA \* 32\*\*TXOP\_EXPONENT\_BASE32 \* 8 µs.Ditto P418L39 and P423L11 | Revised.Agree to the comment that the description of the TXOP field could be improved. The TXOP field definition is inherited from 11ax and it is preferable to keep the format consistent as in one field as in 11ax. The description on the TXOP field has been improved, as in the resolution to CID 8007. No more changes are needed.Note to editor: The description on the TXOP field has been improved, as in the resolution to CID 8007. No more changes are needed. |
| 4603 | 36.3.12.7 | 410.52 | If individual bits within a field need to be identified, then that's a sure sign that something is wrong. Here we have a field that clearly has the form of a floating point number in units of 8us with a special "NaN" value and otherwise a 1 bit exponent (base 32), and a 6 bit mantissa. | Split TXOP into a 1bit and a 6 bit field with suitable names (e.g. TXOP\_EXPONENT\_BASE32 and TXOP\_MANTISSA). In the RHS column, keep the two rows merged, and try:TXOP\_EXPONENT\_BASE32 is set to 1 and TXOP\_MANTISSA is set to 63 to indicate no duration information if the TXVECTOR parameter TXOP\_DURATION is UNSPECIFIED; otherwise indicate duration information for NAV setting and protection of the TXOP as a floating point number with a 1-bit base-32 exponent and a 6-bit mantissa, in units of 8 µs, as follows:If the TXVECTOR parameter TXOP\_DURATION is less than 512, thenTXOP\_EXPONENT\_BASE32 is set to 0 and TXOP\_MANTISSA is set to floor(TXOP\_DURATION/8).Otherwise, TXOP\_EXPONENT\_BASE32 is set to 1 and TXOP\_MANTISSA is set to floor((TXOP\_DURATION-32\*8)/(32\*8)).NOTE--If TXOP\_EXPONENT\_BASE32 and TXOP\_MANTISSA are not set to 1 and 63 respectively, then the indicated TXOP duration equals TXOP\_MANTISSA \* 32\*\*TXOP\_EXPONENT\_BASE32 \* 8 µs.Ditto P418L39 and P423L11 | Revised.Agree to the comment that the description of the TXOP field could be improved. The TXOP field definition is inherited from 11ax and it is preferable to keep the format consistent as in one field as in 11ax. The description on the TXOP field has been improved, as in the resolution to CID 8007. No more changes are needed.Note to editor: The description on the TXOP field has been improved, as in the resolution to CID 8007. No more changes are needed. |

***Instructions to the editor:***

**Please make the changes to P558L45-L63 (in Table 36-28) and P566L38-L55 (in Table 36-31) in 802.11be spec draft D1.4 (original P410L44-L62 and P418L39-L62 in 802.11be spec draft D1.0) for CID 8007 as shown below:**

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| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
| U-SIG-1 | B13–B19 | TXOP | 7 | If the TXVECTOR parameter TXOP\_DURATION is UNSPECIFIED, set to 127 to indicate absence of duration information.(#3176)(#1359)(#2628) If the TXVECTOR parameter TXOP\_DURATION is an integer value, set to a value less than 127 to indicate duration information for NAVsetting and protection of the TXOP as follows: |
|  |  |  |  | If the TXVECTOR parameter TXO- |
|  |  |  |  | P\_DURATION is less than 512,  |
|  |  |  |  | set to |
|  |  |  |  | 2×floor(TXOP\_DURATION/8). |
|  |  |  |  | Otherwise, set to 2×floor((TXOP\_DURATION- 512)/128)+1. |
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***Instructions to the editor:***

**Please make the changes to P570L7-L25 (in Table 36-32) in 802.11be spec draft D1.4 (original P423L11-L33 in 802.11be spec draft D1.0) for CID 8007 as shown below:**

## Table 36-32—U-SIG field of an ER preamble

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| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
| U-SIG-1 | B13–B19 | TXOP | 7 | Indicates a scaled version of the TXOP duration. The TXOP duration could be derived as follows:If TXOP=127, the TXOP duration is unspecified.If TXOP is an even number, the TXOP duration is 8×TXOP/2 µs.Otherwise, the TXOP duration is 512+128×(TXOP-1)/2 µs. |

# CID 4568

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| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 4568 | 36.x | 0.00 | The value of N\_SD should be clarified. | Add a special instruction about the value of N\_SD when it comes to DCM, which should be half of the value of N\_SD without DCM. | Revised.The definition of N\_SD in Table 36-23 is “Effective number of data tones carrying unique data.” It implies that with DCM, the N\_SD value is half the N\_SD value without DCM. We agree to the comment that we could explicitly clarify this, and we could do it in Table 36-23 where N\_SD is defined.Note to editor: In the N\_SD definition in P541L27 in 802.11be spec draft D1.4, add the following NOTE: “NOTE—The N\_SD value with DCM (when applicable) is half of the N\_SD value without DCM, for each RU/MRU size." |