IEEE P802.11
Wireless LANs

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| --- |
| [CC28 Trigger frame format comment resolution] |
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Abstract

[This submission addresses the following CIDs from TGaz CC28 and based on TGaz draft 0.5.4:

10,11,12,13,224,221,223.

Revisions:

Rev 0: Initial version of the document.

Rev 1: track change cleanup – no changes to content

Rev 2: More editor cleanup

Rev 3: removed an extraneous comment

Rev 4: changes resulting from discussions during the Thu AM1 session

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Page | Clause | Comment | Proposed Change | Resolution |
| 10 | 22 | 9.3.1.23.9 | Do we need to add behavior for the "Location Negotiation" subtye if not, let's delete it. | As per comment | Revised. Agreed in principle to delete the behavior. Removed the corresponding entry.  |
| 11 | 23 | 9.3.1.23.9.19.3.1.23.9.29.3.1.23.9.3 | It might make sense to remove the text "except that the AID12 subfield carries an AID12 for an associated locating STA or an RID12 for an unassociated locating STA." from each specific Location trigger (Poll, sounding, LMR) to a common section under new title. | As per comment | Revised. Agreed in principle. Moved the statement to an already existing common section.  |
| 12 | 23 | 9.3.1.23.9.3 | Should we add a new title for common section to include all texts below line 32? | As per comment | Revised. Agreed in principle. We moved it to an already existing section.  |
| 13 | 24 | 9.3.1.23.9.3 | Remove 'is TBD from text "The UL Target RSSI field in the User Info field is TBD." | I believe we would need RSSI target for UL MIMO | Revised. Agreed in principle. This is the same as in 11ax. |
| 224 | 23 | 9.3.1.23.9.2 | "The User Info field for the HEz Uplink Sounding sub-variant is defined in Figure 9-52??." -- the baseline defines the format for all Trigger frames in Figure 9-52g so you can't just change this here | As it says in the comment | Revised. Agreed in principle. However, in the revised version we have included a field “UL Rep” to indicate number of HE LTF repititions in the HE Ranging NDP PPDU or HE TB Ranging NDP PPDU sent as response to the TF. Hence, we have a revised Fig. 9-52 and Fig. 9-53. |
| 221 | 23 | 9.3.1.23.9.1 | "The Per User Info field in the HE Poll Trigger sub-variant" -- there is no such field | Change to "User Info field" | Accept. |
| 223 |  | 9.3.1.23.9 | Is it a subvariant or a subtype? | Be consistent | Accept. Revised the Section to replace “type” with “variant” and “sub-type” with “subvariant” |

***TGaz Editor: revise Section 9.3.1.23 as follows:***

9.3.1.23 Trigger frame format

***Insert the following new rows into Table 9-25b****:*

|  |  |
| --- | --- |
| Trigger Type subfield value | Trigger frame variant |
| 8  | Ranging |
| 9-15 | Reserved |

1. —Table 9-25b—Trigger Type subfield encoding

*TGaz Editor: Update the following clauses as shown below:*

9.3.1.23.9 Ranging Trigger variant

The format of the Trigger Dependent User Info field for the Ranging Trigger frame is dependent on the Trigger Subtype field value in the Trigger Dependent Common Info field of the Ranging Trigger frame (Table XXXX Ranging Trigger subtype field encoding).

.

|  |  |  |
| --- | --- | --- |
|  | Ranging Trigger Subtype | Reserved |
| Bits: | 4 | 4 |

Figure 9-52xx - Trigger Dependent Common Info subfield for the Ranging Trigger variant.

The value of the Ranging Trigger Subtype for the Ranging Trigger frame is defined in Table XXXX.

1. —Table xxxx — Ranging Trigger Subtype field encoding

|  |  |
| --- | --- |
| Location Trigger Subtype field value | Location Trigger frame subvariant |
| 0 | Poll  |
| 1 |  Sounding |
| 2 | Secured Sounding |
| 3 |  Report |
|  |  |
| 4 |  Passive Location Sounding |
| 5-15 | Reserved |

The Ranging Trigger frames shall be transmitted with a Trigger Frame MAC Padding Duration of 16usec.

The format of the Trigger Dependent User Info field for the Ranging Trigger frame is dependent on the Ranging Trigger Subtype field value in its RangingTrigger Dependent Common Info field (Table XXXX Ranging Trigger subtype field encoding).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0-B11 | B12-B31 | B32-B38 | B39 |
|  | AID12/RID12 | Reserved | Target RSSI | Reserved  |
| Bits | 12 | 20 | 7 | 1 |

Figure 9-52yy—User Info field for Ranging Trigger Frame

The format of the User Info field in the Ranging Trigger frame is shown in Figure 9-52yy User Info field for Ranging Trigger Frame. The AID12/RID12 subfield carries either the 12 LSBs of the AID for an associated ISTA or the 12 LSBs of the RID for an unassociated ISTA.

The RA field and the CS Required, UL BW subfields in the Common Info field of the Ranging Trigger frame are identical to the Basic Trigger frame described in 27.5.3.5 and 9.3.1.23, except that the RA field in Ranging Trigger frames with only one User Info field can be either unicast or broadcast.

The More TF subfield of the Common Info field of the Location Trigger frame is set to 1 and the RA field is set to the broadcast address to indicate that a subsequent Location Trigger frame of TB Ranging Poll subvariant is scheduled for transmission within the availability window as defined in Section 11.22.6.1.1. The More TF subfield of the Common Info field of the Location Trigger frame is set to 0 and the RA field is set to the broadcast address to indicate that no subsequent Location Trigger frame of TB Ranging Poll subvariant is scheduled for transmission within the availability window.

The TA field for the Location Trigger frame is TBD.

9.3.1.23.9.1 Poll subvariant

The Trigger Dependent User Info subfield is not present in the Poll sub-variant of the Ranging Trigger frame.

9.3.1.23.9.2 Sounding subvariant

The Trigger Dependent User Info subfield is not present in the Sounding sub-variant of the Ranging Trigger frame.

 The User Info field for the Sounding sub-variant of the Ranging Trigger frame is defined in Figure 9-52xx.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0-B11 | B12-B20 | B21-B22 | B24-B25 | B26-B31 | B32-B38 | B39 |
|  | AID12/RID12 | Reserved | UL Rep | Reserved | SS Allocation | Target RSSI | Reserved  |
| Bits | 12 | 9 | 3 | 2 | 6 | 7 | 1 |

Figure 9-52xx—User Info field for Sounding sub-variant

The UL Rep subfield signals the number of repititions of the HE LTF symbols in the corresponding HE TB Ranging NDP PPDU or HE Ranging NDP PPDU from the STA indicated in the AID12/RID12 subfield. The value of the UL Rep subfield is the same in all User Info fields in the Trigger frame.

The SS Allocation and Target RSSI subfields are identical to the corresponding subfields in the Basic Trigger frame (9.3.1.22 Trigger Frame format).

9.3.1.23.9.3 Secured Sounding subvariant

The Trigger Dependent User Info subfield is present in the Ranging Trigger frame of Secured Sounding subvariant. The Trigger Dependent User Info subfield carries the Security Authentication Code (SAC) field. The SAC field provides the SAC value of the UL or DL sounding associated with the measurement instance (see section 11.22.6.4.5 Transmission of a ranging NDP). The length of this subfield is 16 bits.

 The User Info field for the Secured Sounding sub-variant of the Ranging Trigger frame is defined in Figure 9-53zz.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B11  | B12 B20 | B21 B23 | B24-B25 | B26 B31 | B32 B38 | B39  | B40-B55 |
|  | AID12/RID12 | Reserved | UL Rep | Reserved | SS Allocation | Target RSSI | Reserved  | Trigger Dependent User Info (SAC) |
| Bits: | 12  | 9 | 3 | 2 | 6 | 7 | 1 | 16 |

Figure 9-53zz—User Info field for Secured Sounding sub-variant

The UL Rep subfield signals the number of repititions of the HE LTF symbols in the corresponding HE TB Ranging NDP PPDU or HE Ranging NDP PPDU from the STA indicated in the AID12/RID12 subfield.

9.3.1.23.9.4 Report subvariant

The Trigger Dependent User Info subfield is not present in the Ranging Trigger frame of Reporting subvariant.

9.3.1.23.9.5 Passive Location Sounding subvariant

The Location Trigger frame of Passive Location Sounding subvariant follows the definition of the Ranging Trigger frame of Sounding subvariant except that the RA field is set to the broadcast address.

***TGaz Editor: Change Table 9-25i (UL Target RSSI subfield encoding) as follows:***

**Table 9-25i—UL Target RSSI subfield encoding**

|  |  |
| --- | --- |
| **UL Target RSSIsubfield**  | **Description** |
| 0–90  | Values 0 to 90 map to −110 dBm to −20 dBm |
| 91–126  | Reserved |
| 127  | Indicates to the STA to transmit an HE Ranging NDP PPDU or HE TB Ranging NDP PPDUresponse at a transmit power corresponding to its maximum transmit power for MCS 0 if the Trigger frame is of Ranging variant and Sounding or Secured Sounding or Passive Location Sounding sub-variant; otherwise, indicates to the STA to transmit an HE TB PPDUresponse at its maximum transmit power for theassigned MCS |