### IEEE P802.11 Wireless LANs

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| Comment Resolution for 9.3.1.22 and 9.3.1.22.1 | | | | |
| Date: 2025-04-08 | | | | |
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Abstract

This document contains comment resolutions for the following 29 CIDs related to subclause 9.3.1.22(.1).

* 9, 10, 61, 84, 193, 404, 405, 1065, 1203, 1567,
* 1568, 1605, 1668, 1985, 2084, 2340, 2523, 2875, 2876, 2877,
* 2878, 2879, 2880, 3161, 3270, 3271, 3474, 3631, 3722.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Minor revisions.
* Rev 2: Updated the Feedback User Info field subclause number.
* Rev 3: Minor editorial changes.

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 subsequent TGbn Draft. This introduction is 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.***

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| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 9 | Jialing Li (Alice Chen) | 9.3.1.22.1 | 38.64 | Add a paragraph to change the first paragraph of the subclause by adding description of an individually addressed BSRP Trigger Frame with the GI And HE/UHR-LTF Type subfield set to 3. | Refer to the comment. | Revised –  Agree in principle with the comment. Added BSRP non-trigger based (NTB) Trigger (which is defined in the BSRP trigger frame format subclause in 11-25/637r3) as an exception in a variety of places in this subclause.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 9. |
| 10 | Jialing Li (Alice Chen) | 9.3.1.22.1 | 39.02 | Add the crossed out text of "and" before "EHT variant User Info field" as in 11-24/2133r4. | Refer to the comment. | Accepted |
| 61 | Stephen McCann | 9.3.1.22.1 | 35.58 | Typo - "set to" | Change "set to" to "equal to". Also at P39L13 (x2), P39L16, P39L17, P41L64 | Accepted |
| 84 | Xiangxin Gu | 9.3.1.22.1 | 39.27 | It is hard to read Table 9-46a--Valid combinations of B54 and B55 in the Common Info field, B39 in the User Info field, and solicited TB PPDU format | Add a column "PHY Version Identifier" to separate UHR variant | Revised –  Agree in principle with the comment. Added the column as per suggestion.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 84. |
| 193 | You-Wei Chen | 9.3.1.22.1 | 39.50 | in Note1, 'EHT AP or UHR' should be 'EHT or UHR AP' | change to 'EHT or UHR AP' | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 404 | Shuang Fan | 9.3.1.22.1 | 39.10 | In 11bnan UHR variant User Info field can be addressed to an AP in MAPC, not just only to a non-AP STA; | Clarify that a UHR variant User Info field can be addressed to an AP | Revised –  Agree in principle with the comment. Added this exception in a variety of places in this subclause.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 404. |
| 405 | Shuang Fan | 9.3.1.22.1 | 39.50 | Change '...or UHR sends' to '...or UHR AP sends' | as in comment | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 1065 | Matthew Fischer | 9.3.1.22.1 | 39.50 | typo requires correction | statement: "NOTE 1--For example, if an EHT AP or UHR sends a Trigger frame that intends to solicit an EHT TB PPDU with a"... proposed change: "NOTE 1--For example, if an EHT AP or UHR AP sends a Trigger frame that intends to solicit an EHT TB PPDU with a"... | Revised –  Removing “or UHR” since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 1203 | You-Wei Chen | 9.3.1.22.1 | 39.43 | since the last two rows are not used in UHR, suggest to remove. | remove last two rows of Table 9-46a, | Revised –  Cannot really remove them since they are part of baseline. Removing the UHR(TBD) portions in the before last row.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 1203. |
| 1567 | Jinsoo Choi | 9.3.1.22.1 | 39.18 | There can be non-UHR HE STA as well that a UHR STA is operating as HE STA. | Modify from non-EHT HE STA to non-EHT/UHR HE STA. | Rejected –  A UHR STA is also an EHT STA and as such it would still fall under non-EHT HE STA. Hence no further changes are needed. |
| 1568 | Jinsoo Choi | 9.3.1.22.1 | 39.50 | UHR needs to modify as UHR AP. | See the comment. | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 1605 | Jian Yu | 9.3.1.22.1 | 39.43 | Define A-PPDU for HE+UHR | as in comment |  |
| 1668 | Jian Yu | 9.3.1.22 | 38.60 | Define trigger for Co-BF and co-SR | as in comment |  |
| 1985 | Liuming Lu | 9.3.1.22.1 General | 39.14 | The differentiation of EHT and UHR variant is based on the PHY Version Identifier subfield in the Special User Info field. Need to clarify that the Special User Info field is always present depending on the condition mentioned. | As in comment. Please clarify for better readability. Suggest to add a note. | Revised –  Agree in principle with the comment. Added a column for the PHY version identifier and its setting.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 1985. |
| 2084 | Vishnu Ratnam | 9.3.1.22.1 | 39.50 | In note 1 under Table 9.46a, "EHT AP or UHR sends" should be changed to "EHT AP or UHR AP sends". But also since UHR AP is also an EHT AP, this new text is probably not needed. | As in comment. | Revised –  Removing “or UHR” since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 2340 | Yan Zhang | 9.3.1.22.1 | 39.43 | Since APPDU is not allowed in UHR to trigger HE+UHR TB PPDU as Note 2 that the last two rows are not used by EHT or UHR AP, it is meaningless to add UHR variant in Table 9-46a. In 11be the last two rows are added for APPDU and they are not adopted in 11bn. It will be hard to imagine they are going to be used in next generation since HE STAs will be phased out by then. Please remove UHR (TBD) in row 4. | As in comment | Revised –  Agree with the comment. Removed the UHR (TBD) entries in that table.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 2340. |
| 2523 | Jarkko Kneckt | 9.3.1.22 | 38.60 | An evil actor may do man-in-the-middle attacks and acknowledge the frames instead of the true receiver. This may signal incorrectly to the transmitter that the frames are received, even if the frames are not received. The transmitter may erase the frames from the transmission buffer and this may cause frame loss. The ultra high reliability (UHR) 802.11 shall have means to avoid such attacks and ensure reliable frames delivery in all cases. | Please add the protected trigger, BA and BAR frame descriptions as specified in submission 11-24-2055. | Rejected –  Agree in principle but this particular functionality is somewhat out of scope of TGbn. The commenter is invited to submit the comment to REVmf. |
| 2875 | Mark RISON | 9.3.1.22.1 | 39.11 | A UHR STA is an EHT STA, so "EHT or UHR STA" should be just "EHT STA". DItto at 144.1. Similarly for "EHT or UHR AP" (2x) and "EHT STA or UHR STA" and "EHT AP or UHR AP", and 39.56/57 | As it says in the comment | Accepted |
| 2876 | Mark RISON | 9.3.1.22.1 | 39.13 | "otherwise, it is an EHT or UHR variant, depending on the PHY Version Identifier subfield in the Special User Info field. It is an EHT variant if the PHY Version Identifier subfield in the Special User Info field is set to 0, or a UHR variant if the PHY Version Identifier subfield in the Special User Info field is set to 1" -- too verbose | Change to "otherwise, it is an EHT variant if the PHY Version Identifier subfield in the Special User Info field is set to 0, or a UHR variant if the PHY Version Identifier subfield in the Special User Info field is set to 1" | Revised –  Agree with the comment. Accounted for the suggestion except for using “equal to” instead of “set to”.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 2876. |
| 2877 | Mark RISON | 9.3.1.22.1 | 39.50 | "EHT AP or UHR" is missing "AP" at the end, but since a UHR AP is an EHT AP it should be just "EHT AP" | As it says in the comment | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 2878 | Mark RISON | 9.3.1.22.1 | 39.50 | I'm not sure this NOTE works now that UHR has been added, because (a) per the table 000, 001 and (TBD) 101 can all be used to solicit an EHT TB PPDU and (b) the table says nothing about 4x996-tone RUs | Delete the NOTE | Rejected –  Note simply gives two examples, one for soliciting an EHT TB PPDU and one for soliciting a UHR TB PPDU. So it helps the reader hence beneficial to be there. The mentioning of 4x996-tone RU is because of baseline so for consistency the amendment cites similar combination. |
| 2879 | Mark RISON | 9.3.1.22.1 | 39.27 | This table is missing the 3 cases (111, 011, 010) | As it says in the comment | Rejected –  The modification of those entries is not in scope of TGbn as this table was created in TGbe (i.e., it is baseline). Please submit a comment in REVmf if this is believed to be an issue. |
| 2880 | Mark RISON | 9.3.1.22.1 | 39.57 | If it's TBD, how do we know the last 2 rows won't be used by UHR APs or will be responded to by UHR non-AP STAs? | As it says in the comment | Revised –  UHR STAs are EHT STAs and as such expectation is that they respond similarly. Agree that the TBD adds confusion. Proposed resolution is to remove the TBD text.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 2880. |
| 3161 | Yunbo Li | 9.3.1.22.1 | 39.51 | In Note1, "or a UHR AP sends a Trigger frame that intends to solicit a UHR TB PPDU with a 4996-tone RU from a UHR STA" covers the UHR STA case, there is no need to mention UHR STA in the short sentence before. | change NOTE1 as below: For example, if an EHT AP sends a Trigger frame that intends to solicit an EHT TB PPDU with a 4\*996-tone RU from an EHT STA, or a UHR AP sends a Trigger frame that intends to solicit a UHR TB PPDU with a 4\*996-tone RU from a UHR STA, then the AP sets B54 and B55 of the Common Info field to 0 and sets B39 to 1 in the User Info field addressed to the STA. | Revised –  Agree. Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 3270 | Hanqing Lou | 9.3.1.22.1 | 39.01 | Now we have HE/EHT/UHR variant Common Info field. Better to add a paragraph decribe that three Common Info fields are defined. | Add a paragraph to explain there are three variant of Common Info fields defined. | Revised –  Subclause 9.3.1.22.2 (Common Info field) already defines and calls out these variants so for clarity we are simply adding that the Common Info field has several variants and point to that subclause 9.3.1.22.2 for more information.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 3270. |
| 3271 | Hanqing Lou | 9.3.1.22.1 | 39.50 | Something missing in the sentence "if an EHT AP or UHR sends..." | Change to "if an EHT or UHR AP sends". | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 3474 | Ron Porat | 9.3.1.22.1 | 39.48 | typo | an EHT AP or UHR --> an EHT or UHR AP | Revised –  Removing or UHR since UHR AP is an EHT AP.  TGbn editor: Remove “or UHR” and “or UHR STA”. |
| 3631 | Alfred Asterjadhi | 9.3.1.22.1 | 39.43 | Expand the table to also account on the setting of the PHY version identifier to help differentiate between EHT and UHR. This will also help solving this TBD. | As in comment. | Revised –  Agree in principle and accounted for the suggested changes.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 3631. |
| 3722 | Li-Hsiang Sun | 9.3.1.22.1 | 38.65 | The RA field setting rule for BSRP may need to be updated as non-AP can send BSRP | modify the rule such that RA could be an AP's BSSID | Revised –  Agree in principle and accounted for the suggested changes.  TGbn editor to make the changes shown in 11-25/0442r3 under all headings that include CID 3722. |

* **Trigger frame format**
* **General**

***TGbn editor: Please add the instruction and paragraph in the beginning of 9.1.3.22.1 as follows [#9]:***

***Change the first paragraph as follows:***

A Trigger frame that is not an MU-RTS Trigger frame or a BSRP non-trigger based (NTB) Trigger frame (see 9.3.1.22.12 (BSRP Trigger frame format)) allocates resources for and solicits one or more TB PPDU transmissions. An MU-RTS Trigger frame allocates resources for one or more PPDUs that are not TB PPDUs (see 26.2.6 (MU-RTS Trigger/CTS frame exchange sequence procedure), 35.2.1.2 (Triggered TXOP sharing (TXS) procedure), and 35.2.2 (MU-RTS Trigger/CTS frame exchange procedure for EHT STAs)), and a BSRP NTB Trigger frame solicits a Multi-STA BlockAck frame in a non-HT PPDU or a non-HT duplicate PPDU (see 37.15 (Use and requirements of initial Control frames)). The Trigger frame also carries other information required by the responding STA to send an HE TB PPDU (see 26.5.2 (UL MU operation)), an EHT TB PPDU (see 35.5.2 (EHT UL MU operation)), a UHR TB PPDU (see 35.x (UHR UL MU operation)), a non-HT PPDU or a non-HT duplicate PPDU (see 26.2.6 (MU-RTS Trigger/CTS frame exchange sequence procedure), 35.2.1.2 (Triggered TXOP sharing (TXS) procedure), 35.2.2 (MU-RTS Trigger/CTS frame exchange procedure for EHT STAs) and 37.15 (Use and requirements of initial Control frames)), HE Ranging NDP (see 11.21.6.1.3 (Passive TB ranging overview)), or HE TB Ranging NDP (see 11.21.6.4.3 (TB ranging measurement exchange)) in response to the Trigger frame.*[#9]*

***TGbn editor: Please add the instruction and paragraphs as follows [#3722, 9, 404, 3270]:***

***Change the fourth paragraph as follows:***

The RA field is set as follows:

* For a Trigger frame that is not a GCR MU-BAR, NFRP or MU-RTS Trigger frame, and that has one User Info field that is not a Special User Info field (see 9.3.1.22.3 (Special User Info field)) and is not a Feedback User Info field (see 9.3.1.22.6a (Feedback User Info field)) and the AID12 subfield of the User Info field contains the AID of a STA, the RA field is set to the address of that STA
  + The STA is a non-AP STA except when the Trigger frame is a BSRP Trigger frame that is addressed to an AP in which case the AID12 subfield of that User Info field
    - Contains the value 0 if the Trigger frame is a BSRP NTB Trigger frame, which is sent by a non-AP STA to that AP, as defined in 37.15 (Use and requirements of initial Control frames))
* Contains the AP ID of an AP if the Trigger frame is a BSRP Trigger frame, which is sent by an AP to that AP, as defined in 37.15 (Use and requirements of initial Control frames))*[#3722, 9, 404]*For a Trigger frame that has at least one User Info field with the AID12 subfield that allocates an RA-RU, the RA field is set to the broadcast address
* For a Trigger frame that is not a GCR MU-BAR Trigger frame and that has more than one User Info field that is neither a Special User Info field (see 9.3.1.22.3 (Special User Info field)) nor a Feedback User Info field (see 9.3.1.22.6a (Feedback User Info field)), the RA field is set to the broadcast address*[#3722, 9, 404]*
* For a Trigger frame that is an NFRP Trigger frame or MU-RTS Trigger frame, the RA field is set to the broadcast address
* For a Trigger frame that is a GCR MU-BAR Trigger frame, the RA field is set to the MAC address of the group for which reception status is being requested

The Common Info field, which has several variants,*[#3270]* is defined in 9.3.1.22.2 (Common Info field).

***TGbn editor: Please change the paragraphs below as follows [#10]:***

There are four ~~three~~ three variants for the User Info field: HE variant User Info field (see 9.3.1.22.4 (HE variant User Info field)), ~~and~~ EHT variant User Info field*[#10]* (see 9.3.1.22.5 (EHT variant User Info field)) and UHR variant User Info field (see 9.3.1.22.6 (UHR variant User Info field)) and UHR variant User Info field (see ) and UHR variant User Info field (see 9.3.1.22.6 (UHR variant User Info field)).

***TGbn editor: Please change the paragraphs below as follows [#404, 9, 2876, 61, 2875, 84, 1985, 3631, 1203, 2340, 193, 405, 1065, 1568, 2084, 2877, 3271, 3474, 2880]:***

***Change the nineth paragraphs, Table 9-46a and the following NOTEs as follows:***

[M#186] A User Info field that is addressed to a STA*[#404, 9]* is one of ~~either~~ one of an HE variant,, ~~or~~ an EHT variant or a UHR variant or a UHR variant. The User Info field is addressed to a non-AP STA if the Trigger frame is sent by a non-UHR AP. The User Info field is addressed to a non-AP STA in all Trigger frames sent by a UHR AP except for a Trigger frame that is addressed to another AP in which case the User Info field is addressed to that AP (37.15 (Use and requirements of initial Control frames)). The User Info field is addressed to an AP if the Trigger frame is a BSRP NTB Trigger frame that is sent by a UHR non-AP STA to a UHR AP (37.15 (Use and requirements of initial Control frames)).*[#404, 9]*

The User Info field is an HE variant addressed to an *[#404, 9]*EHT *[#2875]*STA if B39 of the User Info field is equal to 0 and B54 of the Common Info field is equal to 1 in the Trigger frame; otherwise, it is an EHT or UHR variant*[#2876]*. The User Info field is an EHT variant if the PHY Version Identifier subfield in the Special User Info field in the Trigger frame is equal to 0, and is a UHR variant if the PHY Version Identifier subfield in the Special User Info field in the Trigger frame is equal to 1*[#61]*. B39 of an HE variant User Info field is reserved for a non-EHT HE STA. B39 is set to 0 for an HE variant User Info field by an EHT *[#2875]*, and is the PS160 subfield for an EHT or UHR variant User Info field. Table9-46a (Valid combinations of B54 and B55 in the Common Info field, PHY Version Identifier field in the Special User Info field, *[#84, 1985, 3631]*B39 in the User Info field, and solicited TB PPDU format) defines valid combinations of B54 and B55 in the Common Info field, B39 in the User Info field, the presence of the Special User Info field in the Trigger frame, the variant of a User Info field, and the corresponding TB PPDU type.

***Table 9-46a—Valid combinations of B54 and B55 in the Common Info field, PHY Version Identifier field in the Special User Info field,*** *[#84, 1985, 3631]****B39 in the User Info field, and solicited TB PPDU format***

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| **Common Info field B54** | **Common Info field B55** | | **Presence of Special User Info field** | **PHY Version Identifier field in Special User Info field***[#84, 1985, 3631]* | **User Info field B39** | **User Info field variant** | **TB PPDU type** |
| 1 | 1 | | No | Not applicable | 0 | HE variant | HE |
| 0 | 0 | | Yes | 0 | 0 or 1 | EHT variant | EHT |
| 0 | 0 | | Yes | 1 | 0 or 1 | UHR variant | UHR |
| 1 | 0 | | Yes | 0 | 1 | EHT variant | EHT*[#1203, 2340, 2880, 3631]* |
| 1 | 0 | | Yes | 0 | 0 | HE variant | HE |

NOTE 1—For example, if an EHT AP sends a Trigger frame that intends to solicit an EHT TB PPDU with a 4´996-tone RU from an EHT STA or a UHR AP sends a Trigger frame that intends to solicit a UHR TB PPDU with a 4×996-tone RU from a UHR STA, , or if a UHR AP sends a Trigger frame that intends to solicit a UHR TB PPDU with a 4´996-tone RU from a UHR STA, then the AP sets B54 and B55 of the Common Info field to 0 and sets B39 to 1 in the User Info field addressed to the STA.*[#193, 405, 1065, 1568, 2084, 2877, 3161, 3271, 3474]*

NOTE 2—Although the last two rows in Table9-46a (Valid combinations of B54 and B55 in the Common Info field, PHY Version Identifier field in the Special User Info field**,***[#84, 1985, 3631]*B39 in the User Info field, and solicited TB PPDU format) are not used by an EHT AP (see 35.5.2.1 (General)), a non-AP EHT STA*[#1203, 2340, 2880, 3631]* might respond to a Trigger frame with B54 in the Common Info field equal to 1 and with B55 in the Common Info field equal to 0 based on the two rows.