IEEE P802.11
Wireless LANs

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| Comment resolutions for The Last of the CIDs – Plan B |
| Date: 2020-08-16 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D6.0 with the following CIDs (33 CIDs):

* 24002, 24033, 24037, 24083, 24102, 24143, 24209, 24211, 24212, 24227,
* 24297, 24302, 24371, 24374, 24402, 24403, 24404, 24408, 24417, 24418,
* 24425, 24426, 24429, 24465, 24485, 24487, 24526, 24527, 24540, 24541,
* 24552, 24566, 24567

Revisions:

* Rev 0: Initial version of the document. The document contains all CIDs that are currently not resolved (as per 241r14, excluding my CIDs for which a separate document is prepared). CIDs that are not highlighted in yellow have a proposed resolution, while those highlighted in yellow do not have a proposed resolution. Check with assignees (located in proposed resolution tab <assignee> status of resolution.

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 TGax Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGax Editor: Editing instructions preceded by “TGax Editor” are instructions to the TGax editor to modify existing material in the TGax draft. As a result of adopting the changes, the TGax editor will execute the instructions rather than copy them to the TGax Draft.***

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| **CID** | **Commenter** | **Page** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 24002 | Bims, Harry | 773 | 28 | G.1 | The attribute "mu-user-not-respond" should be consistent with the 11ax text change to Section G.4 that adds "HE MU PPDU" | modify the Description field of the attribute "mu-user-not-respond" by changing the text "is part of a VHT MU PPDU" to "is part of a VHT MU PPDU or HE MU PPDU" | <Editor> |
| 24033 | Sakoda, Kazuyuki | 38 | 39 | 3.2 | There are references to "6 GHz STA" in the mainbody of the draft specification. However, 6 GHz STA is not defined in the subclause 3. | Please define 6 GHz STA in either subclause 3.1 or 3.2. Alternatively, replace 6 GHz STA and 6 GHz AP with something else. | <Editor>Revised –Agree in principle. TGax Editor: Please insert the following definition in the appropriate place of subclause 3.2: 6 GHz station (STA): A STA with dot11HE6GOptionImplemented equal to true and operating in the 6 GHz band. |
| 24037 | Goldhamer, Mariana | 658 |  | 27.3.20 | Given the technology mix in the relevant frequency bands and due to V2X scenarios in which cars come from opposite directions, it is needed to add the "receiver blocking" performance in the first and second adjacent channels to the channel on which the unwanted "blocking signal" is transmitted. | The receiver blocking is a measure of the capability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of a blocking signal.Receiver blocking for W MHz (where W is 20, 40, 80, or 160) shall be measured by setting thedesired signal's strength 3 dB above the rate-dependent sensitivity specified in Table 27-51 (Receiver minimum input level sensitivity) and raising the power of the interfering signal, transmitted in the adjacent channel or non-adjacent channel, of W MHz bandwidth until 10%PER is caused for a PSDU length of 2048 octets for BPSK modulation with DCM or 4096 octets for all othermodulations. The interferer power at which the specified PER occurs is the actual receiver blocking level.The actual values should be agreed by the task group. | <Xiaogang> |
| 24083 | Adachi, Tomoko | 232 | 10 | 9.7.1 | It is no longer just an EOF (end-of-frame) field. | This field should be changed such as to "EOF/Solicit Ack" field. Also, it is better to change EOF MPDU to Ack-Soliciting MPDU, and non-EOF MPDU to Not-Ack-Soliciting MPDU, accordingly. (Suggestions for better terms are welcomed.) | <Editor>Rejected –The EOF terminology is still appropriate, because it indicates the eof of frame for a particular set of blocks (be it due to being the same TIDs, and/or isolating an MMPDU among the blocks of MPDUs within the A-MPDU. Also please note that while EOF helps with ack solicitation it is not restrictive to the ack solicitation, i.e., the EOF can be set to 1 also when the following MPDU does not solicit an acknowledgement. |
| 24102 | hervieu, Lili |  |  |  | On December 12th 2019, the FCC issued a Notice of Proposed Rulemaking proposing the lower 45 megahertz of the 5.9 GHz band for unlicensed uses (not under DFS rules). | The Annex E- Table E-4 - Global operating classes shall be updated to take into account the additional 173, and 177 channels, providing 2 additional 40 MHz channels, 1 additional 80 MHz channel, and 1 additional 160 MHz channel. | <Thomas> |
| 24143 | Lalam, Massinissa | 114 | 110 | 9.3.1.8.7 | It is unclear why 4 octets are reserved in the Per AID TID Info subfield when AID is 2045. Per AID TID Info subfield is already of variable length, so why should this filed be 12 octets long when 8 are sufficient. Either give a better explanation in the following NOTE why ignoring 10 octets is better than 6 or removed those 4 reserved bytes | As in comment | <George>Rejected –Reserved fields/bits are reserved so that they can be used in future amendments. There is no correct answer as to whether reserving 2 or 4 or any other number. The current number is determined taking into account the likelihood of their use in the future (we don’t know how and/or when they will be used) and the length was determined such that it is the same as the length of a basic BlockAck Bitmap field. |
| 24209 | Schelstraete, Sigurd | 724 | 19 | B.4.3 | Is it the correct understanding from lines 19 and 25 that a CFHE6G device has to mandatorily support 2.4 and 5 GHz? Would that make tri-band operation mandatory? | Clarify. If the intention is to support either 2.4 or 5 GHz, use O#n notation. | <Osama> |
| 24211 | Schelstraete, Sigurd | 730 | 3 | B.4.33.2 | Is this section supposed to be an exhaustive list of PHY features? If so, it would appear that a lot of (mainly optional) features are missing: DCM, Midamble, Spatial reuse, HE-LTF formats, GI, BF feedback formats, pilot formats, UL precorrection, ... | Add features if required | <Osama - Resolved by Sigurd> |
| 24212 | Schelstraete, Sigurd | 730 | 38 | B.4.33.2 | Shouldn't HEP2.1, HEP2.2, HEP2.3 and HEP2.4 be mandatory? If not, why does the column "Support" offer the options Y, N, N/A? | Correct. Either Put "M" in column "Status" or leave column "Support" blank | <Osama - Resolved by Sigurd> |
| 24227 | Wilhelmsson, Leif | 251 | 50 | 10.3.3.13.1 | "the acknowledgment procedure for MPDUs that were not transmitted within a VHT MU PPDU". It sounds strange to have an acknowledgement procedure for soemthing not sent...Is it possbile to rephrase this to better capture what is intended to be said? | As in comment | <George>Rejected –The comment is asking a question. The current definition captures correctly what is intended to be said, however it is true that it can be clarified better (using positive statements rather than negative statements). However this change is out of scope of TGax since the cited portion of the sentence is from baseline REVmd. Hence the commenter is invited to re-submit the comment to REVmd so that the appropriate CRC can address it correctly. |
| 24297 | RISON, Mark | 122 | 17 | 9.3.1.22.1 | "The AP Tx Power subfield of the Common Info field indicates, in units of dBm, the AP's combined transmitpower at the antenna connectors of all the transmit antennas used to transmit the Trigger frame and normal-ized to 20 MHz bandwidth. The transmit power is reported with a resolution of 1 dB, with values in therange 0 to 60 representing -20 dBm to 40 dBm, respectively." is not clear in the case the Trigger frame is not transmitted over the full bandwidth (i.e. when DL OFDMA is used). Better to explicitly say it is the transmit power density of the PPDU the Trigger frame is in, in dBm / 20 MHz. Also there's only one transmit antenna connector | Change to "The AP Tx Power subfield of the Common Info field indicates the AP's transmitpower spectral density at the transmit antenna connector used to transmit the triggering PPDU, in units of dBm / 20 MHz. The transmit power is reported with a resolution of 1 dB / 20 MHz, with values in therange 0 to 60 representing -20 dBm / 20 MHz to 40 dBm / 20 MHz, respectively." | <Xiaogang> |
| 24302 | RISON, Mark |  |  | 9 | "The Rx HE-MCS Map <= 80 MHz subfield isalways present in the Supported HE-MCS AndNSS Set field." and "The Tx HE-MCS Map <= 80 MHz subfield isalways present in the Supported HE-MCS AndNSS Set field." in Table 9-321c--Subfields of the Supported HE-MCS And NSS Set field duplicate Figure 9-787d--Supported HE-MCS And NSS Set field format. "The HE MIMO Control field is always present in the frame. " in 9.6.31.2 HE Compressed Beamforming/CQI frame format duplicates Table 9-526b--HE Compressed Beamforming/CQI frame Action field format. "The TIM element and OPS element are always present in the frame." in 9.6.31.4 OPS frame format duplicates Table 9-526d--OPS frame Action field format. "A BSS Color Change Announcement element is always present in the frame." in 9.6.32.2 HE BSS Color Change Announcement frame format duplicates Table 9-526f--HE BSS Color Change Announcement frame Action field format. | Delete the cited texts | <Editor> |
| 24371 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] Per the definition of an antenna connector there is only ever one for tx and one for rx | In 9.2.4.6a.1 TRS Control change "combined transmit power at the antenna connectors of all the transmit antennas" to "power at the transmit antenna connector". In 9.3.1.22.1 General change "combined transmitpower at the antenna connectors of all the transmit antennas used to transmit the Trigger frame" to "power at the transmit antenna connector"; "averagedover the AP's antenna connectors" to "averagedover the AP's antennas". In 9.3.1.22.9 NDP Feedback Report Poll (NFRP) variant change "receiver's antenna connector(s)" to "receiver's receive antenna connector". In 3.2 (2x) and 9.4.2.248 HE Operation element and 26.17.7 Co-hosted BSSID set change "antenna connectors" to "receive and transmit antenna connectors". In 11.10.14 Multiple BSSID set (5x) change "antenna connector" to "receive and transmit antenna connectors". In 26.10.2.4 Adjustment of OBSS PD and transmit power and 26.10.2.5 OBSS PD SR transmit power restriction period (2x) and 26.10.3.3 SRP-based spatial reuse backoff procedure change "output of the antenna connector" to "transmit antenna connector". In 26.10.3.2 PSR-based spatial reuse initiation change "RSSI at the antenna connector(s)" to "RSSI at the receive antenna connector". In 26.10.3.4 UL Spatial Reuse subfield of Trigger frame change "total power at the antenna connector(s)" to "total power at the transmit antenna connector". In 27.3.15.2 Power pre-correction change "target receive signal power of the HE TB PPDU averaged over the AP's antennaconnectors" to "target receive signal power of the HE TB PPDU at the AP's receive antennaconnector" and "antenna connector(s)" to "receive antenna connector". In 27.3.14.3 Pre-correction accuracy requirements change "support per chain max(P-32, -10) dBm as the minimum trans-mit power, where P is the maximum power, in dBm, that the STA can transmit at the antenna connector ofthat chain" to "support max(P-32, -10) dBm as the minimum transmit power, where P is the maximum power, in dBm, that the STA can transmit at the transmit antenna connector" and "at the STA's antenna connector" to "at the STA's receive antenna connector". In 27.3.20.1 General change "the antenna connectors" to "the receive antenna connector" | <Editor> |
| 24374 | RISON, Mark |  |  | 10.6.12 | [Resubmission of comment withdrawn on D5.0] An HE STA in 2G4 should not be allowed to send a frame with a bw-signalling TA in a DSSS/CCK PPDU (in the baseline this is disallowed because only VHT STAs can send BSTAs but VHT STAs do not operate in the 2G4 band), since DSSS/CCK PPDUs do not carry signalling in the scrambler init | Insert as the third sentence of 10.6.12 Channel Width in non-HT and non-HT duplicate PPDUs in the baseline the sentence "The TA field shall not be set to a bandwidth signaling TA in a frame carried in a DSSS/CCK PPDU." | <Editor> |
| 24402 | RISON, Mark |  |  | C.3 | [Resubmission of comment withdrawn on D5.0] OCW defaults should be in the MIB, just like EDCA defaults are | As it says in the comment | <Yongho> |
| 24403 | RISON, Mark |  |  | 26.6.3.1 | [Resubmission of comment withdrawn on D5.0] There has been extensive discussion in TGmd of the extent to which multiple ACs' traffic could be transmitted within a given TXOP. The conclusion (see 18/1368 and 18/1260) was that the correct balance of optimal spectrum utilisation and optimal QoS prioritisation was that:\* Allowing a lower AC to transmit into an AC with higher priority degrades the differentiated service offered to the higher ACthough:\* However, once a lower AC has gained access, allowing the same STA higher AC to leverage that same TXOP makes sensei.e. you can aggregate higher-priority traffic only, after transmitting everything available on the primary AC.This balance exists for non-TB transmission in 11ax/D5.0. However in 11ax/D5.0 for TB transmission any ACs are allowed, with just a recommendation to transmit from the preferred AC or higher. The rule should be closer to the above, with encouragement to use the preferred AC first, then any higher-priority ACs, then anything else.There is also a lot of waffling and duplication in the current text. And references to non-existent fields in 26.4.1. | Make the changes shown under Proposed changes for CID 21203 in 19/1667r1 | <Liwen> |
| 24404 | RISON, Mark |  |  | 10.23.4.2.3 | [Resubmission of comment withdrawn on D5.0] The baseline says "Frame exchange sequences for Management frames are excluded from the used\_time update.", but it is not clear how HE TB PPDUs count for used\_time. The answer is that TXOPs involving HE TB PPDUs should be excluded from used\_time the AP can account for them when it allocates the admitted\_time to the non-AP STA; any other unfairness is addressed by other mechanisms (e.g. the MU EDCA parameter set). | In the referenced subclause, change "Frame exchange sequences for Management frames are excluded from the used\_time update." to "Frame exchange sequences for Management frames and frame exchange sequences that include HE TB PPDU transmission are excluded from the used\_time update." | <Editor> |
| 24408 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] Re CID 20068 said "Avoid reference to magic numbers (2045). TGax has discussed this topic before and had decided to replace all references to AID12=0 or AID12=2045 with RA-RU for associated or unassociated STA." and was not rejected, but there are still lots of references to 2045 | Fix explicit 2045s in 26.4.1 Overview, 26.4.2 Acknowledgment context in a Multi-STA BlockAck frame, 26.5.2.2.1 General, 26.5.2.2.3 Padding for Trigger frame or frame containing TRS Control subfield, 26.5.2.3.1 General, 26.5.2.4 A-MPDU contents in an HE TB PPDU, 26.5.4.1 General, 26.5.4.5 Additional considerations for unassociated STAs, 26.11.1 STA\_ID | <Editor> |
| 24417 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] Re CIDs 20521, 20522. Various editorial consistency improvements were proposed but not addressed | Make the editorial consistency improvements proposed for CIDs 20521, 20522 | <Editor> |
| 24418 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] Re CID 20522. It is still not sufficiently clear that it's not over the PPDU bandwidth, it's over the RU width | Make the changes proposed in CID 20522 | <Editor> |
| 24425 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] CID 20646. The resolution is "the spec will not list all the cases that are not allowed" -- but that is exactly what the spec needs to do! Otherwise there will be interop problems (because someone will do the undocumented not allowed thing, and then someone else will not know how to deal with this) | At the end of 9.2.4.6a.7 add a para "A CAS Control field is not present in a PPDU that is not an HE PPDU." | <Editor> |
| 24426 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] CID 20646. The resolution is "the spec will not list all the cases that are not allowed" -- but that is exactly what the spec needs to do! Otherwise there will be interop problems (because someone will do the undocumented not allowed thing, and then someone else will not know how to deal with this) | As it says in the comment | <Editor> |
| 24429 | RISON, Mark |  |  |  | [Resubmission of comment withdrawn on D5.0] CID 20769. The resolution is not responsive to the comment, which was a technical comment rather than an editorial comment | Make the changes proposed by CID 20769 | <Yongho> |
| 24465 | RISON, Mark | 220 | 20 | 9.4.2.262 | "The UL MU Power Capabilities element indicates the relative maximum transmitpower that a STA is capable of transmitting an HE TB PPDU for each HE-MCS in the operating channelwidth" -- but this doesn't work, because the operating channel width can change (and there's no mechanism for the element to be updated, since it's only included in the (re)assoc req). The resolution to CID 22265 seems to be saying ("it does not represent the power beyond the current operating channel") that the information would become useless if the operating channel width changed, which sounds pretty bad to me. The information passed needs to work for all oeprating channel widths | Delete " in the operating channel width" from the cited text. In 26.5.9 delete "in the current operating channel width " | <Yongho> |
| 24485 | RISON, Mark |  |  | 10.25.2 | It is not clear whether two HE STAs that have negotiated a BA buffer size >64 for a given TID can exchange >64 MPDUs for that TID in a HT/VHT PPDU | At 280.37 add a para "An HE STAs whose transmission window is greater than 64 may transmit more than 64 MPDUs in a VHT PPDU to the recipient HE STA." | <George> |
| 24487 | RISON, Mark |  |  | 26.4.4 | We have a 26.4.4.4 Responding to an HE MU PPDU, HE SU PPDU or HE ER SU PPDU with an HE TB PPDU but we also need a subclause on responding to a non-HE PPDU with an HE TB PPDU, if the non-HE PPDU is a triggering frame (i.e. contains a Trigger frame or TRS Control). The resolution to CID 22321 said "Only the MPDUs sent in HE MU PPDU, HE SU PPDU or HE ER SU PPDU can set the Ack Policy to HTP Ack", which is true, but not relevant to this comment, which is about the need for information on how to respond to a non-HE PPDU with an HE TB PPDU | As it says in the comment | <George> |
| 24526 | Yee, James | 458 | 13 | 26.17.2.2 | The use of "HE AP 6G" occurs only here and is undefined. | Replace with the more commonly used "6 GHz HE AP". | <Editor> |
| 24527 | Yee, James | 456 | 35 | 26.17.2.1 | The labels "6 GHz HE AP", "6 GHz HE STA", "6 GHz AP", "6 GHz non-AP HE STA" and other variants are awkward typographically since they start with a single numeral. | Throughout the document, modify such labels by shortening "6 GHz" to "6GHz" and moving the "6 GHz" to before the last word. For example, replace "6 GHz STA" with "6GHz STA" and "6 GHz HE AP" with "HE 6GHz AP". | <Editor> |
| 24540 | Hamilton, Mark | 764 | 38 | C.3 | Error in baseline text. REVmd has dot11SMTbase15 (not dot11SMTbase13) in this location. | Change the struck-through text to "dot11SMTbase15". Also dot11MACbase and dot11CountersGroup have also incremented in REVmd, beyond those shown here. Probably need to scrub the whole MIB for accuracy of quoted baseline text. | <Editor> |
| 24541 | Hamilton, Mark | 42 | 42 | 3.2 | REVmd has deleted the term "user". It seems unnecessary (and causes conflicts in the text with other uses, beyond SU/MU). | Delete the definition "replacement" for the term "user" | <Editor> |
| 24552 | Asterjadhi, Alfred | 349 | 54 | 26.5.2.2.4 | "The other remaining subfields are set to any valid value" This is not clear. I guess you want to say a valid value so that the soliciting STA constructs a valid HE TB PPDU. | Ensure that the AP provides valid combinations of the values so that the STA constructs a valid HE TB PPDU. | <Withdrawn>Hello Osama,I, Alfred Asterjadhi, Qualcomm Inc., would like to withdraw CID 24552. |
| 24566 | Sun, Li-Hsiang | 369 | 27 | 26.5.6 | If the PPDU carrying BQRP is not occupying 160MHz, there should be no requirement for non-AP STA to report channel availability info for the entire 160MHz. Reporting those 20MHz subchannels occupied by the PPDU carrying BQRP should be sufficient | relax the STA reporting requirement | <Zhou>Revised –It is unclear why reporting the subchannel occupancies within the received PPDU is enough. The fact that the AP sent a BQRP of say 20 MHZ has nothing to do with the channel conditions at the recipient (rather at the transmitter, AP). Hence having the STA report for the full BSS BW (say 160 MHz) is very beneficial for the AP. Hence the current requirement is correct. It is true however that a clarification is needed since it is not clear what the “channel availability information at the STA” refers to. Proposed resolution is to add a note to specify that the channel availability is with respect to the channel operation width of the STA.TGax editor: Please insert the following note immediately after the note in P369L33: NOTE 2—The STA includes in a transmitted BQR the channel availability information that is related to the STA’s operating bandwidth.  |
| 24567 | Sun, Li-Hsiang | 369 | 15 | 26.5.6 | Can AID12=0 or 2045 in BQRP? | Clarify whether STA needs to respond to such BQRP | <Zhou>Rejected –The commenter is asking a question. The AID12 can be set to 0, but cannot be set to 2045 (although not explicitly stated this last one but understandeable since it is not mentioned as an allowed setting by the second sentence) as stated here:“An HE AP may transmit a Basic Trigger frame, BQRP Trigger frame or BSRP Trigger frame that contains one or more RUs for random access. An AP that transmits a Basic Trigger frame may set the AID12 subfieldof any User Info field of the frame to 2045. An AP that transmits a Trigger frame that is not a Basic Trigger frame, BQRP Trigger frame or BSRP Trigger frame shall not set the AID12 subfield of any User Info field of the frame to 0.” |

**Discussion: *None.***