IEEE P802.11  
Wireless LANs

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| CR for Clause 35.2.1.3 | | | | |
| Date: 2021-08-03 | | | | |
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This document proposes resolution to the following CC36 CIDs in 35.2.1.3 (changes relative to draft 1.1):

4185 5315 5367 7561 7697 6122 6124 6125 4187 4188 7058 8028 4189 4190 7328 7329 4194 7667 5243 5961 6354 6529 4353 4354 4355 4356 4357 4358 4359 4360 4374 4375 4376 4737 5143 5152 5960 6123 6127 6133 6138 5140 4183 4184 7712 8314 8315 5162 6553 7713 7714 8029 5207 5208 5236 5373 6592 6593 8320 8321 6977 7331 8328 7405 7406 5374 7664 5448 6393 6394 6528 6530 7559 6552 7325 6532 6533 6554 7453 7560 7773 8313 7775 8316 7772

~~7327 5388 5902 6001 6699 6973 7556 7698 8078 8263 4811 5121 7665 7557 4186 4191 4192 8319 5242 5965 6978 5241 6357 6531 6979 6556 7774 8317 8318 7809 7810~~

Rev0: initial version

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| **CID** | **Page** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 4185 | 244 | 14 | 35.2.1.3.2 | The AP may allocate time within an obtained TXOP...but it does not specify how the AP obtained that TXOP. Add a reference to baseline subclause of obtaining the TXOP (see 10.smth). And to help the reader point out to the Figure as well which shows that the AP has already obtained the TXOP by sending a CTS2Self. | As in comment. | **Revised.**  Agreed in principle. Provided clarification by adding a reference.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5315 | 104 | 64 | 9.3.1.22.5 | Please refer to 35.2.1.3 instead of the whole chapter 35. | Please refer to 35.2.1.3 instead of the whole chapter 35. | **Revised.**  Made the corresponding text change.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5367 | 104 | 38 | 9.3.1.22.5 | intends to allocate time within an obtained TXOP to a non-AP EHT STA for transmitting one or more non-TB PPDUs sequentially.  I think the non-AP EHT STA shall be the associated non-AP EHT STA here.  Please clarify it. | change "a non-AP EHT STA" to "a associated non-AP EHT STA" if it doesn't intend to cover the non-associated EHT STA. | **Revised.**  Agreed in principle. Modified the text to clarify this.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
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| 7561 | 104 | 55 | 9.3.1.22.5 | "MU-RTS that initiates MU-RTS TXOP sharing procedure wherein a scheduled STA can transmit PPDU(s) addressed to its associated AP or addressed to another STA." The non-AP which is allocated the time can only transmit to another non-AP STA within the same BSS other than the AP it is associated to. | Change it to read "MU-RTS that initiates MU-RTS TXOP sharing procedure wherein a scheduled STA can transmit PPDU(s) addressed to its associated AP or addressed to another non-AP STA within the same BSS." | **Reject.**  There is no restriction that the STA can only transmit to other STA in the same BSS. The current design is more flexible and would allow wider set of peer-to-peer protocols to make use of this feature and not just TDLS. |
| 7697 | 104 | 36 | 9.3.1.22.5 | "TXOP Sharing Mode" subfield is not defined before this paragraph, need define the subfield in the Common Info field first | define TXOP sharing mode subfield | **Reject.**  The TXOP Sharing Mode subfield is first referred in P86 of draft 1.0 with explicit pointer to the location of the definition in 9.3.1.22.5. |
| 6122 | 104 | 62 | 9.3.1.22.5 | "An MU-RTS Trigger frame that has the TXOP Sharing Mode subfield set to a nonzero value is called an  MU-RTS TXOP Sharing (TXS) Trigger frame for the remainder of this subclause" -- no, it isn't | Change to "An MU-RTS Trigger frame that has the TXOP Sharing Mode subfield set to a nonzero value is called an  MU-RTS TXS Trigger frame for the remainder of this subclause" | **Accept** |
| 6124 | 104 | 55 | 9.3.1.22.5 | "a scheduled  STA can transmit PPDU(s) addressed to its associated AP or addressed to  another STA." -- is the "or" here inclusive or exclusive? | Clarify | **Revised.**  The “or” is inclusive. Replaced it with “and” for clarification.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 6125 | 104 | 55 |  | "a scheduled  STA can transmit PPDU(s) addressed to its associated AP or addressed to  another STA." -- is this trying to say that you cannot transmit to multiple non-AP STAs? | Clarify | **Revised.**  The STA is allowed to transmit PPDU(s) to multiple non-AP STAs. Revised the text to clarify.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
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| 4187 | 244 | 17 | 35.2.1.2.2 | Since the MU RTS TXS Trigger has the RA set to broadcast (at least appears to be the case) then this needs to be called out more clearly in the sense that: The Trigger frame has only one User Info field and that user Info field is addressed to the non-AP STA (b.t.w, clarify that the Special User Info field might be present as well in the 320 MHz case). | As in comment. | **Revised.**  We added clarification that in 11beR1 we would only allow one STA to be triggered.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4188 | 244 | 24 | 35.2.1.2.2 | It is not clear as to whether the PPDU is the one that carries the immediate response (I would think so) or the PPDU is soliciting an immediate response (I would not think so). Please clarify | As in comment. | **Revised.**  We added clarification that the PPDU carries the immediate response.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7058 | 244 | 28 | 35.2.1.3.2 | "The PPDU is solicited by a non-AP STA that requires an immediate response.". It sounds as if the STA requires a response. For clarity, replace with "The PPDU is solicited by a non-AP STA and requires an immediate response." | See comment | **Revised.**  We added clarification that the PPDU carries the immediate response.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 8028 | 244 | 28 | 35.2.1.3.2 | The sentence "The PPDU is solicited by a non-AP STA that requires an immediate response" is not clear. It should be a PPDU rather than a STA which requires an immediate response. | Please clarify | **Revised.**  We added clarification that the PPDU carries the immediate response.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4189 | 244 | 28 | 35.2.1.2.2 | These conditions are not complete. I would assume that for the first condition the AP shall respond with the PPDU that contains the immediate response and for the second condition the AP may resume its TXOP with one or more frame exchanges as per baseline. | As in comment. | **Revised.**  For the first condition we added clarification that the PPDU indeed carries the immediate response. For the second condition, we don’t have any restriction on what PPDU the AP can send, so its not specified.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4190 | 244 | 38 | 35.2.1.2.2 | Is the non-AP STA tha solicits the immeidate response the one that was addressed by the user info field? Or by the peer STA? Or by any STA? Please clarify. | As in comment. | **Revised.**  We added clarification that this is a PPDU containing an immediate response sent to a non-AP STA that was addressed in the MU-RTS TXS frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
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| 7328 | 244 | 34 | 35.2.1.3.1 | Why is the wording different between "shall not initiate any PPDU" in case of mode 2, and "shall not transmit any PPDU" in mode 1 ? Does it mean that in mode 2 the AP shall not sent a trigger frame to initiate UL transmission ? | replace the sentence by "If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame with the TXOP Sharing Mode subfield equal to 2, then the AP shall not transmit any PPDU within the allocated time specified in the MU-RTS TXS Trigger frame unless the PPDU is solicited by a non-AP STA that requires an immediate response." | **Revised.**  Agree with the commenter. Re-worded the text to keep it consistent.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7329 | 244 | 40 | 35.2.1.3.1 | In the note, replace "initiate transmission of" by "transmit" | As in comment | **Revised.**  While agree with the commenter, this note has been removed as part of CR for another CID.  **TGbe editor:** no changes required. |
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| 4194 | 245 | 64 | 35.2.1.3.3 | Shall transmit? What if the NAV is nonzero or CS is busy? Please clarify. Also I would say more than one in the sense that it can't only transmit the CTS. or can it? In any case this paragraph can be organized better to clearly call out the conditions and expected behaviors in each case. | As in comment. | **Revised.**  Clarified that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7667 | 245 | 61 | 35.2.1.3.3 | STA shall transmit if it received MU-RTS TXS Trigger frame? What if the STA does not have anything to transmit? Isn't it simpler not responding than sending CTS and not sending following non-TB PPDU? | See comment. | **Revised.**  Clarified in the first paragraph that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5243 | 246 | 5 | 35.2.1.3.3 | "may" is not consistent with the first paragraph in this subclause. It is saying "mandatory" to transmit one or more non-TB PPDUs. Please clarify it | As in the comment | **Revised.**  Clarified in the first paragraph that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5961 | 245 | 61 | 35.2.1.3.3 | The first sentence and the second sentence contradict with each other. | Change the first sentence to "After a non-AP STA receives an MU-RTS TXS Trigger frame from its associated AP that contains a User Info field that is addressed to it and the CS result allows it to transmit the responding frame, the STA shall transmit one or more non-TB PPDUs within the time allocation signaled in the MU-RTS TXS Trigger frame.". | **Revised.**  Clarified in the first paragraph that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 6354 | 245 | 61 | 35.2.1.3.3 | It is not clear what the non-STA STA should do if it has no data to transmit since the SU triggered PPDU is intiated by the AP. It is defined that the non-AP STA shall respond with at least one frame and CTS should be the first frame | add a note about what the non-AP STA should do when it has no data to transmit in the assigned SU allocated time so that the AP can gain access to the TXOP right away | **Revised.**  Clarified in the first paragraph that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 6529 | 245 | 61 | 35.2.1.3.3 | In MU-RTS TXS, the scheduled STA shall transmit one or more non-TB PPDUs, the first one being the CTS.  If there is no transmission need at the given time for the STA (especially in mode 2, no P2P transmission by the STA), the TXS mechanism would be blocked (it is specified that "the AP shall not initiate any PPDU transmission within the allocated time specified in the MU-RTS TXS Trigger frame." | A mechanism shall be specified as either to truncate or (better) not-start the TXS.  As example :  - The scheduled STA can send at least to close its timing allocation (a CF-End, QoS\_Null..).  - or the scheduled STA never sends CTS to avoid starting the TXS allocation | **Revised.**  Clarified in the first paragraph that the STA “may” transmit as response to the MU-RTS TXS Trigger frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4353 | 244 | 1 | 35.2.1.3.2 | Add "s" after the word "equal" in the following sentence:"An EHT STA with dot11EHTTXOPSharingTFOptionImplemented \*equal\* to 1 shall follow the rules..." | Revise the sentence as follows:"An EHT STA with dot11EHTTXOPSharingTFOptionImplemented \*equals\* to 1 shall follow the rules..." | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4354 | 244 | 24 | 35.2.1.3.2 | Add "s" after the word "equal" in the following sentence: "If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame to a non-AP STA with the TXOP Sharing Mode subfield \*equal\* to 1." | As in comment. | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4355 | 244 | 36 | 35.2.1.3.2 | Typo - add "s" to the "equal" in the following sentence: "If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame with the TXOP Sharing Mode subfield \*equal\* to 2, then the AP..." | Revise the sentence as follows: ""If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame with the TXOP Sharing Mode subfield \*equals\* to 2, then the AP..." | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4356 | 245 | 1 | 35.2.1.3.2 | Add "s" after each of the words "equal" in the following sentence:"Figure 35-1 (Example of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 1  soliciting UL PPDU) shows an example of the exchange of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 1 and..." | As in comment | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4357 | 245 | 2 | 35.2.1.3.2 | Add "s" to the "equal" in the following sentence: "...shows an example of the exchange of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 1 and transmission of UL non-TB PPDUs by a scheduled STA within  the allocated time" | Revise the sentence as follows: "... shows an example of the exchange of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equals\* to 1 and transmission of UL non-TB PPDUs by a scheduled STA within the allocated time" | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4358 | 245 | 28 | 35.2.1.3.2 | Add "s" to the "equal" in the following Figure 35-1 Caption: "Example of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 1 soliciting UL PPDU" | Revise the sentence as follows: " Example of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equals\* to 1 soliciting UL PPDU" | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4359 | 245 | 32 | 35.2.1.3.2 | Add "s" to the "equal" in the following sentence: "...shows an example of the exchange of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 2 and transmission of PPDUs by a scheduled STA to another STA within the allocated time" | Revise the sentence as follows: "...shows an example of the exchange of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equals\* to 2 and transmission of PPDUs by a scheduled STA to another STA within the allocated time" | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4360 | 245 | 55 | 35.2.1.3.2 | Add "s" to the "equal" in the following Figure 35-2 Caption: "Example of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equal\* to 2" | Revise the sentence as foillows: "Example of MU-RTS TXS Trigger frame with TXOP Sharing Mode subfield value \*equals\* to 2" | **Reject**  The convention is to use the term “equal” and not “equals” |
| 4374 | 244 | 50 | 35.2.1.3.2 | The rule stated in the sentence "The last PPDU transmission by the AP ended less than aSIFSTime before the end of the allocated time in which case it may transmit SIFS after the end of the last PPDU transmission" is not aligned with the diagram illustrated in Figure 35-1 :The diagram shows that the last PPDU transmitted by the AP (i.e. BACK for the Data PPDU) has ended more than aSIFS time before the end of the allocated time and the AP has actually started to transmit a PPDU to non-AP STA 2 PIFS after the transmission of the BACK, long before the end of the allocated time. | Please revise the cited sentence or Figure 35-1 (or both), so they both align. | **Reject.**  Figures are exemplary and not normative. For the case mentioned by commenter in Figure 35-1 the condition that applies is described in P276L33 and not P276L53. |
| 4375 | 245 | 61 | 35.2.1.3.3 | The User Info does not included a any subfield with the Address the specific STA, as stated in the the following sentence: "After a non-AP STA receives an MU-RTS TXS Trigger frame from its associated AP that contains a User Info field that is \*addressed to it\*..." - need to rephrase the sentence (as proposed) | Revise the sentence as follows:"After a non-AP STA receives an MU-RTS TXS Trigger frame from its associated AP that contains a User  Info field that \*contains the AID assigned to it\* ..." | **Reject.**  The sentence follows the convention used in 11ax. For example in P344L9 of 11ax draft 8.0: “The MU-RTS Trigger frame has one of the User Info fields addressed to the non-AP STA.” |
| 4376 | 244 | 53 | 35.2.1.3 | The User Info does not included a any subfield with the Address the specific STA, as stated in the the following sentence: "A non-AP STA addressed by a User Info field in the MU-RTS TXS Trigger frame shall ensure..."- need to rephrase the sentence (as proposed) | Revise the sentence as follows:" "A non-AP STA \*which its assigned AID is contained in\* a User Info field in the MU-RTS TXS Trigger frame shall ensure..." | **Reject.**  The sentence follows the convention used in 11ax. For example in P344L9 of 11ax draft 8.0: “The MU-RTS Trigger frame has one of the User Info fields addressed to the non-AP STA.” |
| 4737 | 244 | 53 | 35.2.1.3 | Is the new proposed Triggered TXOP sharing procedure considered as "UL MU Data" delivery? If a STA uses "UL MU Data Disable" OMI to request to disable UL MU Data procedure, does this request also disable the triggered TXOP sharing procedure (where the responding frame, in case of sharing mode = 1 e.g., is a SU PPDU to AP)? Please add text to describe the expected behavior. | As commented | **Revised**    As per the rules described in Table 9-24b in 11ax draft 8.0, the UL MU Data Disable applies only to the Basic Trigger frames that solicit TB PPDUs. For Triggered SU operation, the corresponding TF is different, TB PPDU are not transmitted and the recovery rules allow AP to reuse any unused time. As such the UL MU Data Disable OMI does not apply to this procedure. We modified the text slightly to reflect that.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5143 | 254 | 61 | 35.2.1.3.3 | For lower collision probability and fairness, a STA that received the MU-RTS TXS Trigger frame can use the MU EDCA parameters. | As in comment | **Revised**  MU EDCA parameter based rules are exclusive to 11ax Basic Trigger frame exchange that results in transmission of TB PPDUs to the AP. We revised the text to have the MU EDCA rules also apply to the case when Triggered TXOP Sharing procedure results in transmission of UL frames.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
|  |  |  |  |  |  |  |
| 5152 | 244 | 40 | 35.2.1.3.2 | "NOTE--The EHT AP that transmits an MU-RTS TXS Trigger frame does not initiate transmission of any PPDU without performing a new backoff if the TXNAV timer has expired."  Remove the note | As in the comment | **Accept.** |
| 5960 | 244 | 22 | 35.2.1.3.2 | change "...TXOP Sharing Support subfield set to 1" to "...TXOP Sharing Support subfield equal to 1" | As in comment | **Accept.** |
| 6123 |  |  | 35.2.1.3 | It is not clear what the channel access conditions are during TXS. Is everything required to be SIFS-separated? Is PIFS recovery allowed? | Clarify | **Revised**  The current text in 35.2.1.3.2 AP behavior allows both PIFS recovery and SIFS based transmissions depending on the current channel conditions.  **TGbe editor:** no further changes needed |
| 6127 |  |  | 35.2.1.3 | It is not clear what AC an AP uses to transmit an MU-RTS TXS Trigger frame | Clarify | **Revised**  The MU-RTS TXS TF is transmitted following baseline rules for transmitting MU-RTS frames. See the following text in 11ax draft 8.0: “An AP may use any AC for sending a PPDU that contains only Trigger frames“  **TGbe editor:** no further changes needed |
| 6133 |  |  | 35.2.1.3 | Is PIFS recovery allowed during TXS? What are the recovery mechanisms for errors, ensuring OBSS STAs don't grab the medium? How is it ensured that there are no gaps > SIFS (or PIFS, if PIFS recovery allowed), again so OBSS STAs don't grab the medium (should there be a requirement to fill the TXS SP, as there is to fill the HE TB PPDU duration?)? | Clarify | **Revised**  The current text in 35.2.1.3.2 AP behavior allows both PIFS recovery and SIFS based transmissions depending on the current channel conditions.  **TGbe editor:** no further changes needed |
| 6138 | 243 | 58 | 35.2.1.3 | Make the feature more useful by allowing the AP to transmit the SU trigger in response to an RTS received from a non-AP | Add text to allow the AP to transmit the SU trigger in response to an RTS received from a non-AP | **Reject.**  The group discussed this possible extension and reached no consensus. |
| 5140 | 244 | 28 | 35.2.1.3 | Change a non-AP STA to the non-AP STA | As in comment | **Revised.**  Revised the corresponding text.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4183 | 244 | 1 | 35.2.1.3.1 | This dot11EHTTXOPSharingTFOptionImplemented variable is undefined. Please define it. | As in comment. | **Revised.**  Added the corresponding MiB variable entry.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 4184 | 244 | 7 | 35.2.1.2 | NAV reset based on CF-end does not depend on the frame that set the NAV. Not clear what this "unless" condition is trying to say. Simply add an exception to the CTStimeout rule for this particular case. | As in comment. | **Revised.**  Modified the text to clarify that the CTS timeout rule.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7712 | 244 | 18 | 35.2.1.3.1 | change "should" to "shall" since this should be mandatory behavior. | as in comment | **Reject.**  During discussions members raised concern that not all EHT STAs may want to parse the MU-RTS TXS frame. |
| 8314 | 244 | 8 | 35.2.1.3.1 | "should not" is a suggestion not a command, an EHT STA may not reset the NAV. | Please clarify it | **Reject.**  During discussions members raised concern that not all EHT STAs may want to parse the MU-RTS TXS frame. Hence, the resolution is to leave it as a recommendation and not mandatory behavior. |
| 8315 | 244 | 14 | 35.2.1.3.2 | change a non-AP STA to an EHT non-AP STA and make the same changing in the whole subclause. | as in comment. | **Revised.**  Modified the text to replace such instances in this clause.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5162 | 244 | 7 | 35.2.1.3.1 | Why would a STA reset the NAV that is updated by an MU-RTS TXS Trigger frame unless it receives a CF-End frame? | Please clarify the conditions when such an update is possible, e.g. "in case no CTS is seen in response to the MU-RTS TXS Trigger frame." | **Revised.**  Modified the text to clarify it just applies to the CTS timeout rule.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 6553 | 244 | 9 | 35.2.1.3.1 | A CF-end frame can be received from any STAs. The transmitter of the CF-End (I assume that it is the EHT STA that transmits during the TXOP initiated by the MU-RTS TXS) has to specify. | As in comment | **Revised.**  Modified the text to clarify that just the CTS timeout rule.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7713 | 244 | 25 | 35.2.1.3.2 | the part "with the TXOP Sharing Mode subfield equal to 1" is not necessary and should be deleted | as in comment | **Reject.**  The TXOP sharing mode subfield equal to 1 allows the AP to control the direction of the PPDU that is going to be transmitted within the allocated time and also allow simpler channel access recovery than whats possible under mode 2. |
| 7714 | 244 | 32 | 35.2.1.3.2 | It is not clear what "the last frame" is referred to. Please clarify, the current sentence is not precise. | as in comment | **Revised.**  **Replaced the text “the last” with “a”.**  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 8029 | 244 | 28 | 35.2.1.3.2 | How to determine a frame is the last immediately response or the last frame? Moreover, the AP may transmit within the allocated time when the condition in this bullet applies to the frames that are not the last frames,e.g., for error recovery. | delete the two "last" in this bullet | **Revised.**  **Replaced the text “the last” with “a”.**  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 5207 | 243 | 53 | 35.2.1.3 | This Triggered TXOP sharing procedure has to add the overhead of following frame exchanges: CTS-self, SIFS, MU-RTS, SIFS, CTS, SIFS, then Data/ACK. It is not as efficient as single user UL OFDMA: Basic-Trigger, SIFS, Data/ACK. It is questionable why anyone would implement it in the product. | Remove this subclause from the draft | **Reject.**  The group has agreed to add the TXOP Sharing procedure to allow low-complexity AP implementations to perform TB based data exchange without requiring to accurately compute the required allocated time and other tx parameters (mcs, nss etc.) at STA side. The additional overhead here is just a SIFS+CTS (which is in the order of 10s of us) and is negligible compared to the overall allocated duration (which could be in order of 100s of us to few ms). Moreover, the single user UL OFDMA mechanism does not address managed P2P communication which the Triggered TXOP Sharing procedure does. |
| 5208 | 244 | 50 | 35.2.1.3.2 | If the non-AP STA failed to received the response frame from the AP STA, it may retransmit in PIFS time, and it will collide with the AP STA's transmitting. In order to avoid that, the AP STA shall at least wait for PIFS after the end of allocated time to transmit. | AP shall wait for at least PIFS time before transmit in this case | **Reject.**  As described in P278L4 of draft 1.1, the non-AP STA shall transmit all its PPDUs within the allocated time. As such the scenario raised by the commenter does not arise. |
| 5236 | 243 | 53 | 35.2.1.3 | In Triggered TXOP sharing procedure, add a mechanism for an AP to shape TXOP to multiple non-AP STAs to transmit PPDUs. | As in comment | **Reject.**  The group has agreed to limit the Triggered TXOP Sharing procedure to just one STA for 11be r1 timeline. However, this possible extension may be considered for r2. |
| 5373 | 243 | 58 | 35.2.1.3.3 | 11be shall consider how to extend the support from only non-AP STA to more than one non-AP STAs in R2. | the comments has already provided a general solution in 1938r5, and will provide a detail solution. | **Reject.**  While the proposed extension is worth investigating, the comment may be out-of-scope for this CC36 phase as we are dealing with features in 11beR1. |
| 6592 | 243 | 59 | 35.2.1.3.1 | In Triggered TXOP Sharing procedure, why is the AP only allowed to share a portion of the time within an obtained TXOP with only one non-AP STA? | AP may allocate time within an obtained TXOP to multiple non-AP STAs. The ID and time duration of each non-AP STA can be signaling in the corresponding User Info field of the MU-RTS TXS TF. | **Reject.**  The group has agreed to limit the Triggered TXOP Sharing procedure to just one STA for 11be r1 timeline. However, this possible extension may be considered for r2. |
| 6593 | 245 | 10 | 35.2.1.3.2 | Figure 35-1 and Figure 35-2 contain CTS-to-self frame, but there is no related description about CTS-to-self frame in 35.2.1.3.2 AP behavior. | Add descriptions about CTS-to-self frame or delete CTS-to-self frame in Figure 35-1 and Figure 35-2. | **Reject**  Figures are exemplrary and not normative. The CTS-to-self transmissions follows baseline rules about transmitting a frame in an obtained TXOP and hence no additional text is required. |
| 8320 | 245 | 12 | 35.2.1.3.2 | Why emphasize CTS-to-self in Figure 35-1 and 35-2? Is CTS-to-self mandantory here? If not, please other frame exchang replaces it in Figure 35-1 or 35-2 to cover more cases. | Please clarify it | **Reject**  Figures are exemplrary and not normative. The CTS-to-self in the Figure(s) is an example of first frame transmission in the TXOP that is not the MU-RTS TXS frame. It is not possible to list all possible frame exchanges. |
| 8321 | 245 | 12 | 35.2.1.3.2 | The PIFS is after the end of allocated time period in Figure 35-1 | Please clarify it | **Reject**  The PIFS in the figure is shown before the second vetical line which corresponds to end of the allocation time. |
| 6977 | 244 | 43 | 35.2.1.3.2 | It is requried to clarify rules for setting TXVECTOR parameters(CH\_BANDWIDTH) of a PPDU that AP transmits after the end of the allocated time. | As in the comment. | **Reject.**  The rules for setting TXVECTOR parameter CH\_BANDWIDTH by the TXOP holder AP at the end of the allocation is same as that of the baseline rules for a regular TXOP holder STA as described in 10.23.2.8 Multiple frame transmission in an EDCA TXOP. |
|  |  |  |  |  |  |  |
| 7331 | 246 | 5 | 35.2.1.3.3 | in mode 2, It is not clear if a non-AP STA can transmit PPDUs to different STAs (including its AP, but also several peers or another AP) during the allocated time. | Split the sentence in two separated sentences. "During allocated time, the non-AP STA may transmit non-TB PPDUs according to the folowing rules:  - If the TXOP Sharing Mode subfield value is 1, The non-AP STA can only transmit PPDUs to its associated AP.  - If the TXOP Sharing Mode subfield values is 2,  the non-AP STA may transmit non-TB PPDUs to one or more STA including its associated AP or another STA." | **Revised.**  Agree in principle with the commenter. The sentence has now been split into two separate ones.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 8328 | 245 | 61 | 35.2.1.3.3 | AP can suggest which traffic can be transmitted first when the TXOP Sharing Mode subfield value is 1 and non-AP STA can transmits the traffic first. Or give some rules such as non-AP STA shall transmits the traffic with higher priority first. | Please clarify it | **Reject.**  Since the STA is in charge of transmitting UL frames within the allocated time, it is expected that the STA can prioritize transmissions per its own QoS requirements. |
| 7405 | 244 | 14 | 35.2.1.3.2 | EHT STA and EHT AP are used throughout the draft. While EHT STA is defined in Clause 35.1, there is no definition of EHT AP. | As in comment | **Reject.**  The term EHT AP is not explicitly defined per convention similar to HE AP. An EHT AP is understood to be a AP entity containing an EHT STA. |
| 7406 | 244 |  | 35.2.1.3.2 and 35.2.1.3.3 | Both AP and non-AP STA behavior should describe when TXOP Sharing Mode subfield value is neither 1 nor 2. | For non-AP STA behavior: " For all other TXOP Sharing mode values, the non-AP STA shall not transmit non-TB PPDUs to its associated AP or another STA." . Similarly for AP behavior. | **Rejected.**  **The text in clause 9 already clarifies that value 3 is reserved.** |
|  |  |  |  |  |  |  |
| 5374 | 244 | 19 | 35.2.1.3.2 | I believe it wants to say the AP shall not address to the non-AP STA that doesn't support TX sharing mode.  the sentence need to rewording. | An EHT AP shall not send a MU-RTS TXS Trigger frame with the User Info field that is addressed to an associated non-AP STA that doesn't set Triggered TXOP Sharing Support subfield to 1 in EHT Capabilities element. | **Reject.**  The difference seems to be that the current text uses “…from which it has not received..” while the proposed text is “… that doesn’t set..”. If so, the current text wording follows same convention as similar texts elsewhere. For example in P368L51 of 11ax draft 8.0:  “An AP shall not transmit a Trigger frame soliciting an HE TB PPDU that uses UL MU-MIMO within an RU that does not span the entire PPDU bandwidth to a non-AP STA from which it has not received an HE Capabilities element with the Partial Bandwidth UL MU-MIMO subfield of the HE PHY Capabilities Information field equal to 1” |
| 7664 | 244 | 19 | 35.2.1.3.2 | Better to use non-negative wording. | Modify P244L19-22 as follows; "An EHT AP may send a MU-RTS TXS Trigger frame with the User Info field that is addressed to an associated non-AP STA if the non-AP STA indicates support by setting an EHT Capabilities element with the Triggered TXOP Sharing Support subfield to 1." | **Reject.**  The current text wording follows same convention as similar texts elsewhere. For example in P368L51 of 11ax draft 8.0:  “An AP shall not transmit a Trigger frame soliciting an HE TB PPDU that uses UL MU-MIMO within an RU that does not span the entire PPDU bandwidth to a non-AP STA from which it has not received an HE Capabilities element with the Partial Bandwidth UL MU-MIMO subfield of the HE PHY Capabilities Information field equal to 1” |
| 5448 | 244 | 30 | 35.2.1.3.2 | What is the difference between PIFS and TxPIFS? | Define TxPIFS or replace TxPIFS with PIFS | **Reject.**  The term TxPIFS is defined in (10-10) of REVme draft 0.1 and is used throughput 802.11 spec. |
|  |  |  |  |  |  |  |
| 6393 | 243 | 61 | 35.2.1.3.1 | "equals to" --> "equal to" | as in comment | **Accept.** |
| 6394 | 243 | 53 | 35.2.1.3 | Please change "a MU-RTS" --> "an MU-RTS" at multiple places throughout this subclause | as in comment | **Accept.** |
| 6528 | 243 | 58 | 35.2.1.3 | In the MU-RTS TXOP Sharing procedure, mode 2 , a scheduled STA transmits PPDUs to another STA. The response of such another STA is not specified (only BA is shown in Figures). The allowed frames types shall be defined. | As per comment.  Whether a data frame can be transmitted as reverse direction shall be stipulated as allowed or not. | **Reject.**  The figures are not normative but exemplrary. It is not required to list all possible combinations of frame exchanges as this will follow any baseline restriction. |
| 6530 | 243 | 59 | 35.2.1.3.1 | The Triggered TXOP sharing procedure allows an AP to allocate a portion of the time to only one non-AP STA for transmitting one or more non-TB PPDUs.  The non-TB PPDU format is not clearly defined, does it relate to any format except TB PPDU format ? | Please define what is a non-TB PPDU | **Revised.**  We define the term “non-TB”  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7559 | 246 | 5 | 35.2.1.3.3 | "During this allocated time, the non-AP STA may transmit non-TB PPDUs to ..." It is obvious that the non-AP STA cannot transmit non-TB PPDU, because it needs to first transmit a CTS to the MU-RTS Trigger frame and it won't receive a further Trigger frame during the allocated time. Adding "non-TB" is rather confusing. | Delete "non-TB". | **Revised.**  We define the term “non-TB”  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 6552 | 243 | 59 | 35.2.1.3.1 | A TB PPDU is an unknown format in the standard. | Please provide the list of supported PPDUs or provide a definition. | **Revised.**  We define the term “non-TB”  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
| 7325 | 243 | 59 | 35.2.1.3.1 | non-TB PPDU has no definition. What kind of PPDU is allowed (SU PPDU, MU PPDU, etc.) ?  It is not clear what scenario may benefit of triggered | Replace by SU PPDU if this is what you are proposing, or clarify what non-TB PPDU means | **Revised.**  We define the term “non-TB”  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 6532 | 243 | 59 | 35.2.1.3.1 | The Triggered TXOP sharing procedure is currently limited to one non-AP STA, whereas it is possible to subsequently trigger other STAs through the use of several cascading TFs. | Please confirm the cascading possibility (inside a same TXOP granted by initial MU-RTS TXS) | **Reject**  The Triggered TXOP sharing procedure allows AP to send MU-RTS TXS TF to only one STA. Once the allocation is over, the AP may send another TXS TF to a different STA in the same TXOP. However, that follows from baseline rules about multiple frame transmission in a TXOP. |
| 6533 | 243 | 59 | 35.2.1.3.1 | The Triggered TXOP sharing procedure is currently limited to one non-AP STA. When using several 20Mhz bands, there is possibilty to trigger several STAs in parallel. | Please allow this possibility by provding several User-Info fields, each for a distinct 20MHz channel reserved. | **Reject.**  The group has agreed to limit the Triggered TXOP Sharing procedure to just one STA for 11be r1 timeline. However, this possible extension may be considered for r2. |
| 6554 | 244 | 61 | 35.2.1.3.2 | Why the AP can invoke the backoff procedure during the TXOP initiated by a MU-RTS TXS, although the AP is the TXOP holder ? | Please remove this condition. | **Reject.**  This is baseline behavior for a TXOP holder. |
|  |  |  |  |  |  |  |
| 7453 |  |  | 35.2.1.3.3 | It is not clear if TXOP Sharing can be used by a non-associated STA? | Consder allowing it, and either way clarify | **Revised.**  The current text clearly describes that the MU-RTS frame is sent by an AP to its associated STA.  **TGbe editor:** no further changes needed |
| 7560 | 246 | 9 | 35.2.1.3.3 | "NOTE--For example, the other STA can be a peer STA of a peer-to-peer link." The non-AP STA which is allocated the time can only transmit to another non-AP STA within the same BSS other than the AP it is associated to. This note implies as if there are other cases allowed. | Delete the NOTE.  Change "... to its associated AP or another STA if the TXOP Sharing Mode subfield value is 2 ..." to "... to its associated AP or another non-AP STA within the same BSS if the TXOP Sharing Mode subfield value is 2 ..." in the previous paragraph. | **Reject.**  While TDLS is the only peer-to-peer protocol defined in IEEE, there are other proprietary protocols that can also make use of the Triggered TXOP sharing procedure. |
| 7773 | 244 | 7 | 35.2.1.3.1 | The legacy STA won't recognize the MU-RTS TXS frame, and will have the problem of NAVTimeout to reset its NAV, if the legacy STA is hidden to the STA that transmits CTS | Either a.) use another Trigger frame variant for the Trigger TXOP TXS,  b.) always require the AP shall transmit other frame (s.g. CTS2Self) that can reserve NAV before the MU-RTS TXS frame | **Reject.**  The group extensively discussed having a new Trigger frame for this purpose and eventually agreed to use a variation of the MU-RTS frame. While this may require the AP to first obtain TXOP when it wants to protect the TXOP, it is left as implementation choice similar to how baseline RTS-CTS exchange is not mandatory at AP. |
| 8313 | 244 | 8 | 35.2.1.3.1 | EHT AP allocates a time period to EHT STA1 for uplink transmission. But legacy STA2 cannot hear EHT STA1, so legacy STA2 will reset the NAV and transmit frame to EHT AP,this will collide with EHT STA1's transmission, please provide some mechanism to solve this issue | Please provide some solution to solve the hidden node problem. | **Reject.**  While agree with the commenter that the current procedure may require the AP to first obtain TXOP when it wants to protect the TXOP, it is left as implementation choice similar to how baseline RTS-CTS exchange is not mandatory at AP. |
|  |  |  |  |  |  |  |
| 7775 | 244 | 12 | 35.2.1.3.2 | There is no description about the AP operations when AP doesn't receive a CTS from STA for the MU-RTS TXS. | Please add description that if the EHT AP doesn't receive a CTS frame in response to its transmitted MU-RTS TXS Trigger frame,the EHT AP will invoke the backoff procedure as described in 10.23.2.2 (EDCA backoff procedure)" | **Reject.**  This is just baseline behavior as described in 26.2.6.2. Since the AP transmitting the TXS Trigger frame inherits the associated rules for MU-RTS frame transmission (see P276L7 in 11be draft 1.1), this text need not be repeated. |
| 8316 | 244 | 24 | 35.2.1.3.2 | If the EHT AP doesn't receive a CTS frame. how to handle the retransmission? | Please clarify it | **Reject.**  This is baseline behavior as described in 26.2.6.2. Note that the AP transmitting the TXS Trigger frame inherits the associated rules for MU-RTS frame transmission (see P276L7 in 11be draft 1.1). |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 7772 | 81 | 104 | 9.3.1.22.5 | According to Single protection settings of the MU-RTS frame, its Duration/ID field is set to be " estimated time, in microseconds, required to transmit the pending frame(s), plus one CTS frame, plus the time..." , but for MU-RTS TXS Trigger frame, there may be no "pending frame(s)" from the AP that transmits the MU-RTS TXS Trigger frame. | Either a.) change the rule of Single protectioni settings for MU-RTS TXS to be "estimated time, in microseconds, required to transmit the pending frame(s) if required, plus one CTS frame, plus the time...",  or b.) always use Multiple protection settings for the Duration/ID field of the frame exchanges that include MU-RTS TXS | **Revised.**  Agree with the commenter about option (b) and made corresponding text change. Also added a text to clarify that the single protection settings apply to an MU-RTS frame that is not a TXS frame.  **TGbe editor:** make the changes identified below in https://mentor.ieee.org/802.11/dcn/21/11-21-1236-01-00be-CR-CC36-cids-in-35.2.1.3.docx. |

**3. Definitions, acronyms, and abbreviations**

**3.1 Definitions**

***TGbe editor: Add the following definition:***

non-Trigger-based (non-TB) PPDU: A PPDU that is not transmitted with HE TB PPDU or EHT TB PPDU format(#6530, 7559, 6552, 7325).

***TGbe editor: Modify the text in P117L24 of 11be draft 1.1 as follows:***

**9.3.1.22.5 MU-RTS Trigger frame format**

An MU-RTS Trigger frame that has the TXOP Sharing Mode subfield set to a nonzero value is called an  
MU-RTS TXS (#6122) Trigger frame for the remainder of this subclause and 35.2.1.3 (Triggered TXOP sharing procedure) (#5315).

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***TGbe editor: Modify the text in P116L62 of 11be draft 1.1 as follows:***

The TXOP Sharing Mode subfield in the Common Info field is set to a nonzero value if the MU-RTS Trigger frame is sent by an EHT AP that intends to allocate time within an obtained TXOP to an associated EHT non-AP  
STA for transmitting one or more non-TB PPDUs(#5367) sequentially (see 35.2.1.3 (Triggered TXOP sharing procedure)); otherwise it is set to 0. The encoding of the TXOP Sharing Mode subfield is defined in Table 9-  
29j5 (TXOP Sharing Mode subfield encoding)

**Table 9-29j5—TXOP Sharing Mode subfield encoding**

|  |  |
| --- | --- |
| **TXOP Sharing Mode subfield value** | **Description** |
| 0 | MU-RTS that does not initiate MU-RTS TXOP sharing procedure. |
| 1 | MU-RTS that initiates MU-RTS TXOP sharing procedure wherein a scheduled STA can only transmit PPDU(s) addressed to its associated AP |
| 2 | MU-RTS that initiates MU-RTS TXOP sharing procedure wherein a scheduled STA can transmit PPDU(s) addressed to its associated AP and to other STA(s)#6124, 6125) |
| 3 | Reserved |

***TGbe editor: Modify the text starting in P275L58 of 11be draft 1.1 as follows:***

**35.2.1.3 Triggered TXOP sharing procedure**

**35.2.1.3.1 General**

The Triggered TXOP sharing procedure allows an AP to allocate a portion of the time within an obtained  
TXOP to an associated EHT non-AP STA(#8315) for transmitting one or more non-TB PPDUs(#6530, 6552,7325).

An EHT STA with dot11EHTTXOPSharingTFOptionImplemented equal to true shall set the Triggered  
TXOP Sharing Support subfield in EHT Capabilities element to 1; otherwise, it shall set the subfield to 0.

An EHT STA with dot11EHTTXOPSharingTFOptionImplemented equal to 1 shall follow the rules defined  
in 35.2.2 (MU-RTS Trigger/CTS frame exchange procedure for EHT STAs) when transmitting or responding to a MU-RTS  
TXS Trigger frame and the additional rules defined in 35.2.1.3.2 (AP behavior) and 35.2.1.3.3 (Non-AP  
STA behavior).

An EHT STA that uses information from an MU-RTS TXS Trigger frame as the most recent basis to update  
its NAV should not reset its NAV after the NAVTimeout has expired (see 10.3.2.4) unless the STA receives a CF-End frame that satisfies the conditions in 26.2.5.(#4184, 5162, 6553).

**35.2.1.3.2 AP behavior**

An EHT AP may allocate time within an obtained TXOP (see 10.23.2.4 Obtaining an EDCA TXOP #4185) to an associated EHT non-AP STA (#7453, 8315) by transmitting an MU-RTS  
TXS Trigger frame as defined in 9.3.1.22.5 (MU-RTS Trigger frame format) parametrized as follows:  
— The Trigger frame has one User Info field addressed to the non-AP STA that is not a Special User Info field(#4187).

The number of User Info fields that is addressed to a non-AP STA in an MU-RTS TXS Trigger frame transmitted by an EHT AP with dot11EHTBaseLineFeaturesImplementedOnly equal to true is 1(#4187).

An EHT AP shall not send a MU-RTS TXS Trigger frame with the User Info field that is addressed to an  
associated non-AP STA from which it has not received an EHT Capabilities element with the Triggered  
TXOP Sharing Support subfield set to 1.

If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame to an EHT non-AP  
STA with the TXOP Sharing Mode subfield equal to 1, then the AP shall not transmit any PPDU within the  
allocated time specified in the MU-RTS TXS Trigger frame unless:  
— The PPDU carries an immediate response and is solicited by the non-AP STA (#4188, 4189, 5140, 7058, 8028) .  
— The CS mechanism indicates that the medium is idle at the TxPIFS slot boundary after the end of  
either the transmission of an i(#7714) mmediate response frame sent to that STA or the reception of a (#7714, 8029) frame from that STA that did not require an immediate response.

If the EHT AP receives a CTS frame in response to its transmitted MU-RTS TXS Trigger frame to an EHT non-AP STA with the  
TXOP Sharing Mode subfield equal to 2, then the AP shall not transmit any PPDU(#7328) within the  
allocated time specified in the MU-RTS TXS Trigger frame unless the PPDU carries an immediate response and is solicited by the non-AP STA (#4190).

***TGbe editor: Modify the text starting in P278L1 of 11be draft 1.1 as follows:***

**35.2.1.3.3 Non-AP STA behavior**

After an EHT non-AP STA receives an MU-RTS TXS Trigger frame from its associated AP that contains a User  
Info field that is addressed to it, the STA may (#4194, 5243, 5961, 6354, 6529, 7667) transmit one or more non-TB PPDUs within the time  
allocation signaled in the MU-RTS TXS Trigger frame. The first PPDU of the exchange shall be a CTS  
frame transmitted per the rules defined in 26.2.6.3 (CTS frame response to an MU-RTS Trigger frame).

The time allocation shall start when the PHY-RXEND.indication primitive of the PPDU that contains the  
MU-RTS TXS Trigger frame has occurred.

During the time allocated by an associated AP, the EHT non-AP STA may transmit non-TB PPDUs (#7559) to the AP or another  
STA if the TXOP Sharing Mode subfield value is 2 (#7331).

NOTE—For example, the other STA can be a peer STA of a peer-to-peer link.

During the time allocated by an associated AP, only the EHT non-AP STA may transmit non-TB PPDUs and only to its associated AP if the TXOP Sharing Mode  
subfield value is 1.

A non-AP STA addressed by a User Info field in the MU-RTS TXS Trigger frame shall ensure that its PPDU  
transmission(s) and any expected responses fit entirely within the allocated time.

A non-AP EHT STA that receives a MU-RTS TXS Trigger frame from its associated AP that contains a User Info field addressed to the STA  
shall update its CWmin[AC], CWmax[AC], AIFSN[AC] and MUEDCATimer[AC] state variables to the  
values contained in the dot11MUEDCATable, for all the ACs from which at least one QoS Data frame was  
transmitted successfully in a non-TB PPDU to the AP within the time allocated in the Trigger frame. A QoS Data frame is transmitted successfully by the STA for an AC if it requires immediate acknowledgment and the  
STA receives an immediate acknowledgment for that frame, or if the QoS Data frame does not require  
immediate acknowledgment (#5143).

The updated MUEDCATimer[AC] shall start at the end of the immediate response if a non-TB PPDU transmitted to its associated AP within the time allocated in an MU-RTS TXS Trigger frame contains at least one QoS Data frame for that AC that requires  
immediate acknowledgment, and shall start at the end of the non-TB PPDU if the transmitted non-TB PPDU  
to its associated AP does not contain any QoS Data frames for that AC that require immediate acknowledgment (#5143).

NOTE —A non-AP EHT STA does not update its state variables to the values contained in the MU EDCA Parameter Set element if any of the following apply:

— The Trigger frame addressed to the STA is neither a Basic Trigger frame nor an MU-RTS TXS Trigger frame

— The STA does not include QoS Data frames in the non-TB PPDU response sent to its associated AP in response to the MU-RTS TXS Trigger frame

**26.9.3 Transmit operating mode (TOM) indication**

***TGbe editor: Modify the text starting in P3841L16 of Revme draft 0.1 as follows:***

An OMI responder that has transmitted the OM Control UL MU Data Disable RX Support subfield set to 1  
shall regard an OMI initiator as capable of participating in UL MU operation for TB PPDU transmissions (#4737) only for the purpose of transmission of acknowledgments if the UL MU Disable subfield is equal to 0 and the UL MU Data Disable subfield is equal to 1 in the most recently received OM Control subfield from that OMI initiator.

***TGbe editor: Change Dot11StationConfigEntry in P642L16 of 11be draft 1.1 as follows:***

Dot11StationConfigEntry ::= SEQUENCE

{

dot11StationID MacAddress,

…

dot11BSSMaxIdlePeriodIndicationByNonAPSTA, TruthValue,

(#1004)(#2246)dot11EHTOptionImplemented, TruthValue,

(#3173)dot11EHTBaseLineFeaturesImplementedOnly, TruthValue,

dot11EHTNSEPPriorityAccessActivated, TruthValue,

dot11EHTTXOPSharingTFOptionImplemented (#4183), TruthValue

}

***TGbe editor: Insert the following after the dot11EHTNSEPPriorityAccessActivated OBJECT-TYPE  
in the dot11StationConfig TABLE:***

dot11EHTTXOPSharingTFOptionImplemented OBJECT-TYPE(#4183)  
 SYNTAX TruthValue  
 MAX-ACCESS read-only  
 STATUS current  
 DESCRIPTION  
 "This is a capability variable.  
 Its value is determined by device capabilities.

This attribute, when true, indicates that the ability of the EHT STA to support the Triggered TXOP Sharing prcodeure. If the attribute is false, the station does not support the Triggered TXOP sharing procedure.   
::= { dot11StationConfigEntry <ANA> }

***Modify the text in REVMe draft 0.1 P865L31 as:***

A STA always uses multiple protection in a TXOP that includes the following:

* Frames that have the RDG/More PPDU subfield equal to 1
* PSMP frames
* VHT/HE NDP Announcement frames, Beamforming Report Poll frames, or BFRP Trigger  
  frames(11ax)
* S1G Beacon frames
* Frames transmitted by an S1G STA with the TXVECTOR parameter RESPONSE INDICATION  
  equal to Long Response
* MU-RTS TXS Trigger frame(#7772)

For S1G STAs, Duration/ID field determination rules are further specified in 10.3.2.15 (NAV distribution).

The Duration/ID field is set as follows:  
 a) Single protection settings

1) In an RTS frame that is not part of a dual clear-to-send (CTS) exchange and is not part of a  
BDT exchange, the Duration/ID field is set to the estimated time, in microseconds, required to  
transmit the pending frame, plus one CTS frame, plus one Ack or BlockAck frame if required,  
plus any NDPs required, plus explicit feedback if required, plus applicable IFSs.

2) In an MU-RTS Trigger frame that is not an MU-RTS TXS Trigger frame(#7772), the Duration/ID field is set to the estimated time, in  
microseconds, required to transmit the pending frame(s), plus one CTS frame, plus the time to  
transmit the solicited HE TB PPDU if required, plus the time to transmit the acknowledgment  
for the solicited HE TB PPDU if required, plus applicable IFSs.