IEEE P802.11
Wireless LANs

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| Comment Resolutions for 11be D2.0 TXVECTOR/RXVECTOR Parameters |
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Abstract

This submission provisions with resolutions to the following 13 CIDs for clause 36.2.2 regarding TXVECTOR and RXVECTOR parameters in IEEE P802.11be D2.0 in WG LB 266, including suggested spec text modification to IEEE P802.11be D2.0 to TGbe editor:

* CIDs: 10373, 10739, 10740, 10741, 10766, 11215, 11335, 11336, 12014, 12534, 12573, 12577, 13563

Revisions:

* R0: comment resolutions initial draft

Interpretation of a Motion to Adopt

A motion or majority supported straw poll to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. When the baseline spec draft is an unapproved version, a majority supported straw poll to approve this submission means that the editing instructions and any changed or added material are actioned in the unapproved TGbe Draft. This introduction is not part of the adopted material.

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

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

***Comments for sub-clause 36.2.2 (pg329): 5 comments***

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Pg/Ln** | **Clause** | **Comment** | **Proposed Changed** | **Resolution** |
| 10373 | 536.16 | 36.2.2 | "a 80 MHz PPDU" should be "an 80 MHz PPDU" | Replace "a 80 MHz PPDU" with "an 80 MHz PPDU" | **Accepted****Discussion:**The addressed original text has a grammar error and the comment is correct. |
| 10766 | 548.45 | 36.2.2 | The parameter "EHT\_PPDU\_TYPE" is not presented if FORMAT is not EHT\_MU or EHT\_TB. | Add a new entry for the parameter "EHT\_PPDU\_TYPE" to clarify the parameter is not present otherwise | **Revised****Discussion:**Agree on the comment that the case for “otherwise” is missing and the addressed parameter should not be present in that case.**TGbe Editor:**Please implement the proposed modification as part of resolution to CID 10766 as in <https://mentor.ieee.org/802.11/dcn/22/11-22-1404-01-00be-cr-d2-0-txvector-rxvector-parameters.docx> |
| 11335 | 549.24 | 36.2.2 | For EHT\_MU, the EXPANSION\_MAT contains a vector of feedback for EACH tones of assigned RU while for EHT\_TB PPDU, the EXPANSION\_MAT contains only a selected tones containing feedbacks (V). Need for fix the inconsistency. Suggest to change the text in MU PPDU to align with the TB PPDU | as in the comment | **Revised****Discussion:**The intention of the comment is to update the description for EHT\_MU PPDU for a looser constriction on how the implementations decide to use full beamforming feedback matrix V or part of it for each of the users.From another side, the phrase “selected tones” may come from HE TB feedback NDP in which RU\_TONE\_SET\_INDEX is used to indicate the selected tones for each user. While in EHT there’s no EHT TB feedback NDP defined. Without a mechanism to indicate which “selected” subcarriers are included in the beamforming feedback matrix V from MAC to PHY, I’d propose to use “all sub-carriers” to avoid over-design.**TGbe Editor:**Please implement the proposed modification as part of resolution to CID 11335 as in <https://mentor.ieee.org/802.11/dcn/22/11-22-1404-01-00be-cr-d2-0-txvector-rxvector-parameters.docx> |
| 10739 | 549.45 | 36.2.2 | EXPANSION\_MAT is a TXVECTOR parameter but PSDU\_LENGTH is not. | Change PSDU\_LENGTH to APEP\_LENGTH which is the corresponding parameter in TXVECTOR. | **Accepted****Discussion:**Agree on the comment that the TXVECTOR parameter “APEP\_LENGTH”, instead of RXVECTOR parameter “PSDU\_LENGTH”, should be used for TXVECTOR parameter “EXPANSION\_MAT”.**Note to TGbe Editor:**Though the comment itself is correct, the marked position pg549/ln45 is not correct. It should be pg549/ln24.  |
| 13563 | 552.39 | 36.2.2 | Enable flexible preamble puncutring of non-HT PPDU by enabling INACTIVE\_SUBCHANNELS in the RXVECTOR | As in comment | **Rejected****Discussion:**No function is defined for PHY to specify an RXVECTOR parameter “INACTIVE\_SUBCHANNELS” for MAC somewhere in the spec. It cannot work by only marking INACTIVE\_SUBCHANNELS as RXVECTOR parameter in Table 36-1.**Reason:**No function is defined in current spec for PHY to specify “INACTIVE\_SUBCHANNELS” as an RXVECTOR parameter.  |
| 10740 | 552.47 | 36.2.2 | Cannot find more details in subclause 35.12.5 as suggested by "See 35.12.5 (INACTIVE\_SUBCHANNELS) for details." | Please remove this sentence or enhance subclause 35.12.5 if there are any additional useful details. | **Rejected****Reason:**The addressed reference provides details on how to use the TXVECTOR parameter “INACTIVE\_SUBCHANNELS”. |
| 12577 | 554.12 | 36.2.2 | The EHT PHY does not support STBC transmission, but still supports STBC reception because of the compatibility. | Revise to 'the EHT PHY does not support STBC transmission'. | **Revised****Discussion:**The 11be spec doesn’t define STBC transmission or reception for EHT PHY. Instead, a legacy PHY will decode STBC coded PPDU when received. But a clarification improvement is preferred.**Proposal to editor:**Replace “the EHT PHY does not support STBC” with “STBC is not supported in EHT PPDUs.” |
| 11336 | 554.17 | 36.2.2 | change "1-8 per RU assigned to no more than 1 user" to "1-8 per RU assigned to single user". Make similar change to both EHT-U and EHT\_TB format | as in the comment | **Accepted****Discussion:**“no more than 1 user” implies there could be no user, which is not correct. |
| 10741 | 555.19 | 36.2.2 | Missing "I" from "Indicates." | As in comment | **Accepted****Discussion:**Editorial correction. |
| 11215 | 555.19 | 36.2.2 | ndicates (typo) | Change to "Indicates" | **Accepted****Discussion:**Editorial correction.  |
| 12014 | 555.19 | 36.2.2 | Change "ndicates" to "indicates". | As in comment. | **Accepted****Discussion:**Editorial correction. |
| 12534 | 555.19 | 36.2.2 | missing 'I' in "Indicates" | add the missing letter | **Accepted****Discussion:**Editorial correction. |
| 12573 | 555.19 | 36.2.2 | I' is missing in 'Indicates'. | As in comment. | **Accepted****Discussion:**Editorial correction. |
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*-----------------------****Proposed Spec Text Modifications for sub-clause 36.2.2****--------------------------*

**36.2 EHT PHY service interface**

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**36.2.2 TXVECTOR and RXVECTOR parameters**

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***TGbe Editor: please implement following proposed modification to Table 36-1 (TXVECTOR and RXVECTOR parameters) at pg319/ln38 in sub-clause 36.2.2 (TXVECTOR and RXVECTOR parameters) in IEEE P802.11be D2.0 as proposed below as part of resolution to CID 10766, and 11335 respectively***

**Table 36-1—TXVECTOR and RXVECTOR parameters**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Condition** | **Value** | **TXVECTOR** | **RXVECTOR** |
| ~~…~~ | ~~…~~ |  |  |  |
| EHT\_PPDU\_TYPE | FORMAT is EHT\_MU and UPLINK\_FLAG is 0 | Set to 0 to indicate a DL OFDMA transmission (includingnon-MU-MIMO and MU-MIMO).Set to 1 to indicate a transmission to a single user or EHTsounding NDP not addressed to an AP.Set to 2 to indicate a DL MU-MIMO (non-OFDMA)transmission. | Y | Y |
| FORMAT is EHT\_MU andUPLINK\_FLAG is 1 | Set to 1 to indicate an UL transmission to a single user or EHTsounding NDP. | Y | Y |
| FORMAT is EHT\_TB | Set to 0 | O | O |
| Otherwise | Not present. *[CID 10766]* |
| … | … | … |  |  |
| EXPANSION\_MAT | FORMAT is EHT\_MU and PSDU\_LENGTH > 0 | For each user, contains a vector in the number of all the subcarriers in a RU/MRU that is assigned to this user. The vector for each subcarrier contains feedback matrices as defined in 36.3.17.2 (EHT beamforming feedback matrix V) based on the channel measured during the training symbols of previous EHT sounding NDPs, HE NDPs or VHT NDPs.  | MU | N |
| FORMAT is EHT\_TB | Contains a vector in the number of ~~selected~~ all the subcarriers in a RU/MRU that is assigned to this user. The vector for each subcarrier contains ~~containing~~ feedback matrices as defined in [36.3.17.2 (EHT](#bookmark276) [beamforming feedback matrix V)](#bookmark276) based on the channel measured during the training symbols of previous EHT sounding NDPs, HE NDPs or VHT NDPs. *[CID 11335]* | O | N |
| Otherwise | See corresponding entry in Table 21-1 (TXVECTOR and RXVECTOR parameters) or Table 27-1 (TXVECTOR and RXVECTOR parameters). |
| … | … |  |  |  |
| … |  |  |  |  |

------------------------ ***End of proposed changes for Table 36-1 -------------------------------------------***

**References:**

1. **IEEE P802.11be/D2.0, May 2022.**