IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CID 4598 | | | | | | Date: 2021-09-21 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Brian Hart | Cisco Systems |  |  | [brianh@cisco.com](mailto:brianh@cisco.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

This submission proposes resolutions for the following comments from comment collection on P802.11be D1.0:

4598

The baseline used in this document is D1.1.

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4598 | 9.2.1.2 | 74. 41 | The 802.11 arch comprises 1 MAC and 1 PHY (among many choices). Since dynamic bandwidth signalling within the RTS+CTS exchange is a pre-existing MAC feature, then it has to be supported by new PHYs such as EHT (or explicitly disallowed or constrained to not exceed the scope of the VHT feature). This is especially true because an EHT STA is also an VHT STA. Meanwhile SU PPDUs with bandwidth-punctured PPDUs are defined in 11be, so the default expectation is that dynamic bandwidth signalling using non-HT PPDUs needs to be extended to 11be (e.g. for exchanges such as 120->120M vs 120->80, or 60->60M versus 60->40, or 240->160, etc etc). Further, since RTS+CTS are state 1 frames (and relate to fundamental channel access) this feature should not depend on association or prior capability exchange, such as knowledge about static bandwith puncturing or 11beR1/R2 capability etc | The cleanest solution is to insert bandwidth/preamble puncturing information into RTS+CTS frames and/or non-HT PPDUs. See for instance 21/247 for some viable ideas. | Rejected.  The CRC could not reach consensus on the changes necessary to address the comment this comment. Although some level of dynamic puncturing is allowed in 35.13.2 (Preamble puncturing operation), this is for OFDMA PPDUs where MU-RTS and/or the 20/40/80/160/320M bandwidth signaling in non-HT PPDUs provides a sufficient solution in the absence of dynamic puncturing for SU PPDUs. The nearer-term options on protection of the bandwidth/preamble puncturing information in non-HT PPDUs described in 21/247r4 (<https://mentor.ieee.org/802.11/dcn/21/11-21-0247-04-00be-bandwidthindicationinrtsctsin320mhzppduandpuncturedpreambles.pptx>) were presented and discussed, and the strawpoll was 29 for option A (to make no change), 5 for option B, 3 for option C, 3 for option D and 25 abstentions. |
|  |  |  |  |  |  |

**Discussion** (continues from Yan Zhang’s 21/1265r1)

It is agreed that α\_r values need to be passed to PHY from MAC, using a corresponding TXVECTOR parameter to pass from MAC to PHY. This should be added to HE, but until then, add it here. Also, move normative language to a suitable section (i.e., 35.8) and be clear about the meaning of 0 in the capabiilites element. Furthermore ( and it can be deduced that this is not a technical change), it is desirable to align the PHY and MAC language more closely with the MIB language, which reads:

***At D1.1P649L22:***

dot11EHTPowerBoostFactorImplemented OBJECT-TYPE

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 non-AP STA is capable of receiving EHT MU PPDUs with RUs having a power boost factor in the range [0.5, 2].

This capability is disabled otherwise, in which case the non-AP STA is capable of receiving EHT MU PPDUs with RUs having a power boost factor in the range [1/sqrt(2), sqrt(2)]."

DEFVAL { false }

::= { dot11PhyEHTEntry 9 }

***TGbe editor: change (following Word track changes):***

Table 9-322ar—Subfield of the EHT PHY Capabilities Information field

|  |  |  |
| --- | --- | --- |
| Power Boost Factor Support | Indicates that the maximum range of power boost factors that a non-AP STA supports for the RUs in a received EHT MU PPDU. | Set to 0 to indicate a range of [ ].  Set to 1 to indicate a range of [0.5, 2]  Reserved for an AP. |

35.8 Rules for setting some TXVECTOR parameters for PPDUs transmitted by an

EHT STA

35.8.1 Setting TXVECTOR parameters for an EHT PPDU

35.8.1.1 STA\_ID

35.8.1.1a ALPHA

The power boost factor ALPHA for the r-th occupied RU or MRU in an EHT MU PPDU in the TXVECTOR shall be in the range [ ] if the Power Boost Factor Support subfield of the EHT PHY Capabilities Information field in the EHT Capabilities element from any recipient STA of the PPDU equals 0; and otherwise shall be in the range [0.5, 2]. For an EHT MU PPDU transmitted to a single user(#1334), ALPHA shall be set to 1.

Subject to these constraints, the value of ALPHA is otherwise implementation specific.

***At P368-379 (e.g., last row in table 36-1):***

Table 36-1—TXVECTOR and RXVECTOR parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Condition | Value | TXVECTOR | RXVECTOR |
| … |  |  |  |  |
| ALPHA | Format is EHT\_MU | For an RU or MRU, set to the power boost factor of the RU or MRU respectively in the range of 0.5 to 2 (see 35.8.1.1a (ALPHA)). | MU | N |
| Otherwise | Not present | N | N |

***Insert immediately after table***

***Editor’s note: the ALPHA row should be updated when and if ALPHA is added to the TXVECTOR and RXVECTOR parameters table in Clause 27 (HE PHY specification) in the 802.11REVme draft.***

***At D1.1P450L39:***

αr is the power boost factor of the r-th occupied RU or MRU in an EHT MU PPDU and it is determined by the ALPHA parameter in the TXVECTOR.

NOTE – αr is constrained as defined in 35.8.1.1a: i.e., for an EHT MU PPDU, αr is in the range [ ] if the Power Boost Factor Support subfield of the EHT PHY Capabilities Information field in the EHT Capabilities element from any recipient STA of the PPDU equals 0; and otherwise αr is in the range []. For an EHT MU PPDU transmitted to a single user(#1334), αr equals 1.