IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CR 24235 24236 PSR 20 MHz Normalization | | | | | | Date: 2020-02-24 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Matthew Fischer | Broadcom |  |  | [Matthew.fischer@broadcom.com](mailto:Matthew.fischer@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

Proposed language to address TGaxD6.0 WG LB247 CIDs on PSR 20 MHz normalization description for CIDs 24235 and 24236.

Proposed changes are referenced to TGax D6.0.

**REVISION NOTES:**

**R0**:

initial

**END OF REVISION NOTES**

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.***

**CIDs**

|  |  |  |  |  |  |  |
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| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution (Proposed)** |
| 24235 | Wilhelmsson, Leif | 26.10.3.2 | 426.10 | The description of how things are normalized to 20 MHz becomes nicer if the formula is spelled out as on p. 420 l.35 | Rephrase how the normalization is done in the same was as on p. 420, l. 35 | Revise – Tgax editor to make the changes marked with CID 24235 in 11-20-0529r0 which generally agree with the commenter’s suggestion to rewrite the description of the calculation of the spatial reuse value and in consequence, affecting the description of the calculation of the OBSS\_PDLevel value. |
| 24236 | Wilhelmsson, Leif | 26.10.3.4 | 427.39 | The description of how things are normalized to 20 MHz becomes nicer if the formula is spelled out as on p. 420 l.35 | Rephrase how the normalization is done in the same was as on p. 420, l. 35 | Revise – Tgax editor to make the changes marked with CID 24236 in 11-20-0529r0 which generally agree with the commenter’s suggestion to rewrite the description of the calculation of the spatial reuse value. |

**Discussion:**

**Proposed Changes to TGax D6.0:**

**CID 24235, 24236:**

***TGax editor: within TGax D6.0, in subclause in 26.10.2.4 Adjustment of OBSS PD and transmit power, change the text as shown and insert a new table as shown:***

**26.10.2.4 Adjustment of OBSS PD and transmit power**

The value of the *OBSS\_PDlevel* is applicable to the start of a 20 MHz PPDU received on the primary 20 MHz channel. If the PPDU\_BW of the received PPDU differs from 20 MHz, then the value of the *OBSS\_PDlevel* is increased by 10 log (PPDU\_BW/20 MHz) dB, where PPDU\_BW is determined from Table 26-xxyy (PPDU\_BW value determination) using the RXVECTOR parameter CH\_BANDWIDTH or CH\_BANDWIDTH\_IN\_NON\_HT of the received PPDU, whichever is present. **(#24235)(#24236)**

**Table 26-xxyy PPDU\_BW value determination (#24235)(#24236)**

|  |  |
| --- | --- |
| **CH\_BANDWIDTH or CH\_BANDWIDTH\_IN\_NON\_HT** | **PPDU\_BW** |
| CBW20, HT\_CBW20, NON\_HT\_CBW20 | 20 MHz |
| CBW40, HT\_CBW40, NON\_HT\_CBW40 | 40 MHz |
| CBW80 | 80 MHz |
| CBW80+80, CBW160 | 160 MHz |

***TGax editor: within TGax D6.0, in subclause in 26.10.3.2 PSR-based spatial reuse initiation, change the text as shown:***

**26.10.3.2 PSR-based spatial reuse initiation**

2) A PSRT PPDU is queued for transmission and the value of the intended transmit power of the PSRT PPDU in dBm minus log10 (PPDU\_BW/20MHz) dB is below the value of PSR minus RPL, where PPDU\_BW is determined from Table 26-xxyy (PPDU\_BW value determination) using the TXVECTOR parameter CH\_BANDWIDTH or CH\_BANDWDITH\_IN\_NON\_HT of the PSRT PPDU, whichever is present and PSR is the value obtained from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) based on at least one of: **(#24235)**

***TGax editor: within TGax D6.0, in subclause in 26.10.3.4 UL Spatial Reuse subfield of Trigger frame, change the header and text as shown:***

**26.10.3.4 UL Spatial Reuse subfield of Trigger frames**

An AP with dot11HEPSROptionImplemented set to true that transmits a Trigger frame may determine the value of the UL Spatial Reuse subfield of the Common Info field of the Trigger frame for each 20 MHz subchannel for 20 MHz, 40 MHz, 80 MHz PPDUs or for each 40 MHz subchannel for 80+80 or 160 MHz PPDU by selecting the row in Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) that has a numerical value in the column labeled "Meaning" that is the highest value that is equal to or below the value of the computed MAC parameter PSR\_INPUT as follows: **(#24236)**

PSR\_INPUT = *TX\_PWRAP* + Acceptable Receiver Interference LevelAP (26-7)

Where

*TX\_PWRAP* is the total power at the antenna connector(s), in dBm for that 20 MHz subchannel, over all antennas used to transmit the PSRR PPDU containing the Trigger frame for each 20 MHz subchannel for 20 MHz, 40 MHz, and 80 MHz PPDU or in each of the 40 MHz subchannelsfor an 80+80 MHz or 160 MHz PPDU. **(#24236)**

Acceptable Receiver Interference LevelAP is a value in dBm for that 20 MHz subchannel for 20 MHz, 40 MHz, and 80 MHz PPDUs or for each of the 40 MHz subchannels for an 80+80 MHz or 160 MHz PPDU and should be set to value of the UL target RSSI indicated in the Trigger frame minus the minimum SNR value that yields ≤ 10% PER for the highest HE-MCS of the ensuing uplink HE TB PPDU, minus a safety margin value not to exceed 5 dB as determined by the AP. **(#24236)**

**End of proposed changes.**