IEEE P802.11
Wireless LANs

|  |
| --- |
| PDT-EHT-PSR-based-SR |
| Date: 2021-03-11 |
| Author(s): |
| Name | Company | Address | Phone | email |
| Ross Jian Yu | Huawei Technologies | Huawei Industrial Base, Shenzhen, Guangdong, China |  | ross.yujian@huawei.com |
| Jason Yuchen Guo |  |  |  |
| Yunbo Li |  |  |  |
| Yan Chen |  |  |  |
| Ming Gan |  |  |  |
| Stephen McCann |  |  |  |
| Edward Au |  |  |  |

Abstract

This document contains proposed draft text update for EHT PSR based Spatial Reuse and HE PSR based Spatail Reuse.

R0: initial version

R1: some editorial changes

***Background (not part of the PDTs):***

SP#1 in 0269r1:

* **Do you agree that:**
	+ For TxPower\_PSRT, PSR, RPL, the normalization is always per 20MHz regardless of the BW field of the EHT TB PPDU?
	+ when BW=80MHz,
		- Spatial Reuse 1 field applies to each 20MHz subchannel of the first 40 MHz subband of the 80MHz operating band.
		- Spatial Reuse 2 field applies to each 20MHz subchannel of the second 40 MHz subband of the 80MHz operating band.
	+ When BW=160MHz,
		- Spatial Reuse 1 field applies to each 20MHz subchannel of the first 80 MHz subband of the 160MHz operating band.
		- Spatial Reuse 2 field applies to each 20MHz subchannel of the second 80 MHz subband of the 160MHz operating band.
	+ When BW=320MHz,
		- Spatial Reuse 1 field applies to each 20MHz subchannel of the first 160 MHz subband of the 320MHz operating band.
		- Spatial Reuse 2 field applies to each 20MHz subchannel of the second 160 MHz subband of the 320MHz operating band.
	+ This is for R1, will bring a PDT for P802.11be D0.4

***Background Ended***

***PDT part begins:***

***Instructions to the editor: please make the changes to L11, Page 237 as follows***

**Table 36-22—U-SIG field of an EHT TB PPDU *(continued)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
|  | B3–B6 | Spatial Reuse 1 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse is allowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 20 MHz or 40 MHz, then this field applies to the first 20 MHz subband.If the Bandwidth field indicates 80 MHz, then this field applies to each 20 MHz of the first 40 MHz subband within the 80 MHz operating band.If the Bandwidth field indicates 160 MHz, then this field applies to each 20 MHz of the first 80 MHz subband within the 160 MHz operating band.If the Bandwidth field indicates 320 MHz-1 or 320 MHz-2, then this field applies to each 20 MHz of the first 160 MHz subband within the 320 MHz operating band.Set to the value of the SPATIAL\_REUSE(1) parameter of the TXVECTOR, which contains a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE)) and 26.10 (Spatial reuse operation)). |
|  | B7–B10 | Spatial Reuse 2 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse is allowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 40 MHz, this field applies to the second 20 MHz subband. If the STA operating channel width is 20 MHz, then this field is set to the same value as the Spatial Reuse 1 field. If the STA operating channel width is 40 MHz in the 2.4 GHz band, this field is set to the same value as the Spatial Reuse 1 field.If the Bandwidth field indicates 80 MHz, then this field applies to each 20 MHz of the second 40 MHz subband within the 80 MHz operating band.If the Bandwidth field indicates 160 MHz, then this field applies to each 20 MHz of the second 80 MHz subband within the 160 MHz operating band.If the Bandwidth field indicates 320 MHz-1 or 320 MHz-2, then this field applies to each 20 MHz of the second 160 MHz subband within the 320 MHz operating band.Set to the value of the SPATIAL\_REUSE(1) parameter of the TXVECTOR, which contains a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE) and 26.10 (Spatial reuse operation)). |

***Instructions to the editor: please make the changes to L45, Page 589 of P802.11ax D8.0 as follows***

**Table 27-21—HE-SIG-A field of an HE TB PPDU**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Two parts of U-SIG** | **Bit** | **Field** | **Number of bits** | **Description** |
|  | B7–B10 | Spatial Reuse 1 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse isallowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 20 MHz, 40 MHz, or 80 MHz then this Spatial Reuse field applies to the first 20 MHz subband.If the Bandwidth field indicates 160/80+80 MHz then this Spatial Reuse field applies to each 20 MHz of the first 40 MHz subband within the 160 MHz operating band.Set to a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE) and 26.10 (Spatial reuse operation)).See the first value in the TXVECTOR parameter SPATIAL\_REUSE. |
|  | B11–B14 | Spatial Reuse 2 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse is allowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 40 MHz or 80 MHz:This Spatial Reuse field applies to the second 20 MHz subband.If the STA operating channel width is 20 MHz, thenthis field is set to the same value as the Spatial Reuse 1 field.If the STA operating channel width is 40 MHz in the 2.4 GHz band, this field is set to the same value as the Spatial Reuse 1 field.If the Bandwidth field indicates 160/80+80 MHz then this Spatial Reuse field applies to each 20 MHz of the second 40 MHz subband within the 160 MHz operating band. Set to a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE) and 26.10 (Spatial reuse operation)).See the second value in the TXVECTOR parameter SPATIAL\_REUSE, if present. |
|  | B15-B18 | Spatial Reuse3 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse is allowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 80 MHz:This Spatial Reuse field applies to the third 20 MHz subband.If the STA operating channel width is 20 MHz or 40 MHz, this field is set to the same value as the Spatial Reuse 1 field.If the Bandwidth field indicates 160/80+80 MHz:This Spatial Reuse field applies to each 20 MHz of the third 40 MHz subband within the 160 MHz operating band.If the STA operating channel width is 80+80 MHz, this field is set to the same value as the Spatial Reuse 1 field.Set to a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE) and 26.10 (Spatial reuse operation)).See the third value in the TXVECTOR parameter SPATIAL\_REUSE, if present. |
|  | B19-B22 | Spatial Reuse4 | 4 | Indicates whether or not specific spatial reuse modes are allowed in a subband of the PPDU during the transmission of this PPDU, and if PSR spatial reuse is allowed, indicates a value that is used to determine a limit on the transmit power of the PSRT PPDU.If the Bandwidth field indicates 80 MHz:This Spatial Reuse field applies to the fourth 20 MHz subband.If the STA operating channel width is 20 MHz, then this field is set to the same value as the Spatial Reuse 1 field.If the STA operating channel width is 40 MHz, then this field is set to the same value as the Spatial Reuse 2 field.If the Bandwidth field indicates 160/80+80 MHz:This Spatial Reuse field applies to each 20 MHz of the fourth 40 MHz subband within the 160 MHz operating band.If the STA operating channel width is 80+80 MHz, then this field is set to same value as the Spatial Reuse 2 field.Set to a value from Table 27-23 (Spatial Reuse field encoding for an HE TB PPDU) for an HE TB PPDU (see 26.11.6 (SPATIAL\_REUSE) and 26.10 (Spatial reuse operation)).See the forth value in the TXVECTOR parameter SPATIAL\_ REUSE, if present. |