IEEE P802.11
Wireless LANs

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| Proposed Text Changes for SR Fields in HE Trigger-Based PPDU |
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Abstract

This document provide proposed text changes to resolve SR field interpretation ambiguity. Please refer to document “11-16/0901r2 Clarification of SR Fields in HE Trigger Based PPDU” for details of the discussion.

rev0: initial draft

rev1: added proposed text changes to the common field of the trigger frame.

rev2: clause 9 does not use shall statements, therefore, remove shall statements in the changes to clause 9.

rev3: added passed strawpoll and contents of 11-16/0905r0 SR Fields Clarification.

This document shows the proposed text changes for resolving SR field ambiguity, which is discussed in document 11-16/0901r2 and 11-16/0905r0.

**To TGax Editor:** Replace the “Spatial reuse field” in Table 26-17 of the secton 26.3.9.7.2 (Content) with four new field entries as shown below. Add a note shown below to the end of the Table 26-17 of section 26.3.9.7.2 (Content).

Details of the proposed changes are shown below.

***----- Start of proposed text changes ------***

|  |
| --- |
| * Fields in the HE-SIG-A for an HE trigger-based PPDU
 |
| Two Parts of HE-SIG-A | Bit | Field | Number of bits | Description |
|  | B7:B10 | Spatial Reuse 1 | 4 | If Bandwidth is set to 20MHz, 40MHz, or 80MHz:* Spatial Reuse field for the first 20MHz subband (See Note 1)

If Bandwidth is set to 160/80+80 MHz* Spatial Reuse field for first 40 MHz subband of the 160 MHz operating band. (See Note 1)

“SR\_allowed” signaling indicates whether SR operation is allowed or not.* Set to 0 to indicate SR is disallowed
* The conditions to disallow SR are TBD
 |
|   | B11:B14 | Spatial Reuse 2 | 4 | If Bandwidth is set to 20MHz, 40MHz, or 80MHz:* Spatial Reuse field for the second 20MHz sub-band (See Note 1)
* When operating 20MHz, this field is set to same value as Spatial Reuse 1 field.
* When operating 40MHz in 2.4GHz band, this field is set to same value as Spatial Reuse 1 field

If Bandwidth is set to 160/80+80 MHz:* Spatial Reuse field for second 40 MHz sub-band of the 160 MHz operating band. (See Note 1)

“SR\_allowed” signaling indicates whether SR operation is allowed or not.* Set to 0 to indicate SR is disallowed
* The conditions to disallow SR are TBD
 |
|  | B15:B18 | Spatial Reuse 3 | 4 | If Bandwidth is set to 20MHz, 40MHz, or 80MHz:* Spatial Reuse field for the third 20MHz sub-band (See Note 1)
* When operating in 20MHz or 40MHz, this field is set to same value as Spatial Reuse 1 field.

If Bandwidth is set to 160/80+80 MHz:* Spatial Reuse field for third 40 MHz sub-band of the 160 MHz operating band. (See Note 1)
* When operating in 80+80MHz, this field is set to same value as Spatial Reuse 1 field.

“SR\_allowed” signaling indicates whether SR operation is allowed or not.* Set to 0 to indicate SR is disallowed
* The conditions to disallow SR are TBD
 |
|  | B19:B22 | Spatial Reuse 4 | 4 | If Bandwidth is set to 20MHz, 40MHz, or 80MHz:* Spatial Reuse field for the fourth 20MHz sub-band (See Note 1)
* When operating in 20MHz, this field is set to same value as Spatial Reuse 1 field.
* When operating in 40MHz, this field is set to same value as Spatial Reuse 2 field.

If Bandwidth is set to 160/80+80 MHz:* Spatial Reuse field for fourth 40 MHz sub-band of the 160 MHz operating band. (See Note 1)
* When operating in 80+80MHz, this field is set to same value as Spatial Reuse 2 field

“SR\_allowed” signaling indicates whether SR operation is allowed or not.* Set to 0 to indicate SR is disallowed
* The conditions to disallow SR are TBD
 |
| Note 1: The four SR fields, 1, 2, 3, and 4, are arranged in increasing order of frequency and correspond to:* For 20MHz one SR field corresponding to entire 20MHz (other 3 fields indicate identical values)
* For 40MHz two SR fields for each 20MHz sub-band (other 2 fields indicate identical values)
* For 80MHz four SR fields for each 20MHz sub-band
	+ For an OFDMA transmission of a given BW, each of the SR fields that corresponds to a 20MHz sub-band is also applicable to the 242RU which is most closely aligned in frequency (in the tone-plan of that BW) with the aforementioned 20MHz sub-band. The correspondence from an SR field to a 242RU also holds for any RU within the 242RU. The above also implies that a 20MHz OBSS STA uses the SR field corresponding to its 20MHz channel, a 40MHz OBSS STA located on the lower frequency half of the 80MHz BSS uses SR Field 1, SR Field 2 values and a 40MHz OBSS STA located on the upper frequency half of the 80MHz BSS uses SR Field 3, SR Field 4 values

For 160MHz and 80+80MHz four SR fields for each 40MHz sub-bandFor an OFDMA transmission of a given BW, each of the SR fields that corresponds to a 40MHz sub-band is also applicable to the 484RU which is most closely aligned in frequency (in the tone-plan of that BW) with the aforementioned 40MHz sub-band. The correspondence from an SR field to a 484RU also holds for any RU within the 484RU. |

***----- End of proposed text changes ------***

Following resolution is proposed changes on top of proposed changes in document 11-16/0780r1, “CIDs for: Section 9.3.1.23 Trigger Frame Format”.

**To TGax Editor:** Apply the following proposed text changes on top of the proposed changes in document 11-16/0780r1.

***----- Start of proposed text changes ------***

The Spatial Reuse bits indicates the value of the Spatial Reuse in the HE-SIGA of the HE\_TRIG PPDU transmitted as a response to the Trigger frame. For HE trigger-based PPDU, 4 SR fields are signaled:

* For 20MHz one SR field corresponding to entire 20MHz (other 3 fields indicate identical values)
* For 40MHz two SR fields for each 20MHz (other 2 fields indicate identical values)
* For 80MHz four SR fields for each 20MHz
* For 160MHz four SR fields for each 40MHz

When operating 40MHz in 2.4GHz band, two SR fields, SR field 1 and SR field 2, are set to same values. When operating 80+80MHz, SR field 3 is set to same value as SR field 1, and SR field 4 is set to to same value as SR field 2.

***----- End of proposed text changes ------***