### IEEE P802.11Wireless LANs

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| 11ax D0.5 Spec Texts: Spatial Reuse Indication for Trigger  |
| Date: 2016-08-29 |
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Abstract

This submission proposes spec texts for motion passed in 16/647

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Editorial revision based on the comment from Rojan
* Rev 2: Revision to align with the texts proposed in 11-16/1223r6 and the texts in D0.5

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 D0.5 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D0.5 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.***

**Discussion:**

In 16/647, the following motion texts has been added to SR Motion 1.

* + If the SR field in the HE-SIG-A of the HE SU PPDU or HE extended range SU PPDU is set to a TBD value, the medium condition for the STA shall indicate BUSY for the duration of the HE SU PPDU or HE extended range SU PPDU. Note that the TBD value of the SR field in the HE-SIG-A of the HE SU PPDU or HE extended range SU PPDU can be set when trigger frame is carried in the HE SU PPDU or HE extended range SU PPDU or under other TBD conditions.
	+ If the SR field in the HE-SIG-A of the HE MU PPDU is set to a TBD value, the spatial reuse transmission in the HE MU PPDU is limited to within the duration of the HE MU PPDU. Note that the TBD value of the SR field in the HE-SIG-A of the HE MU PPDU can be set when trigger frame is carried in the HE MU PPDU or under other TBD conditions.

Propose spec texts for these two motions.

**Propose:**

***TGax editor: Add the underlined texts on page 153 line 10 in 25.9.2.1 (General) as the following:***

[Start Existing texts]

If the PHY of a STA issues a PHY-CCA.indication with a value equal to BUSY followed by an
RXSTART.indication due to a PPDU reception then the STA’s MAC sublayer may a) issue a PHYCCARESET.request primitive and b) not update its NAV timers based on frames carried in the PPDU if all
the following conditions are met:

* The received PPDU is an Inter-BSS PPDU (see 25.2.1 (Intra-BSS and inter-BSS frame detection))
* The received power level measured from the legacy portion of the PPDU is below the OBSS\_PD
 level (defined in 25.9.2.2 (Adjustment of OBSS\_PD and transmit power))
* The PPDU is not one of the following:
	+ A non-HT PPDU that carries an individually addressed Public Action frame where the RA field
	is equal to the STA MAC address(#Ed)
	+ A non-HT PPDU that carries a group addressed Public Action frame

[End Existing texts]

The PHYCCARESET.request primitive shall be issued at the end of the PPDU if all the following conditions are met:

* the PPDU is HE SU PPDU or HE extended range SU PPDU
* the RXVECTOR parameter SPATIAL\_REUSE of the PPDU is set to SR\_Delay entry

If the PHYCCARESET.request primitive is issued before the end of the PPDU, and a TXOP is initiated within the duration of the PPDU, then the TXOP shall be limited to withing the duration of the PPDU if all the following conditions are met:

* the PPDU is HE MU PPDU
* the RXVECTOR parameter SPATIAL\_REUSE of the PPDU is set to SR\_Restricted entry

***TGax Editor: Insert the following subclause, 25.11a, after 25.11***

**25.11a TXVECTOR parameters SPATIAL\_REUSE for** **an HE PPDU**

Spatial Reuse field is carried in the TXVECTOR parameter SPATIAL\_REUSE of an HE PPDU and indicates spatial reuse information (See 25.9.2 (OBSS\_PD-based spatial reuse operation)).

A STA that transmits an HE SU PPDU or HE extended range SU PPDU may set the TXVECTOR parameter SPATIAL\_REUSE to SR\_Delay entry only if a Trigger frame is carried in the HE SU PPDU or HE extended range SU PPDU.

A STA that transmits an HE MU PPDU may set the TXVECTOR parameter SPATIAL\_REUSE to SR\_Restricted entry only if a Trigger frame is carried in the HE MU PPDU.

***TGax editor: Add the underlined texts in Table 26-1—TXVECTOR and RXVECTOR parameters***

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| --- | --- | --- | --- | --- |
| Parameter | Condition | Value | TXVECTOR | RXVECTOR |
| SPATIAL\_REUSE | FORMAT is HE\_SU or HE\_MU or HE\_EXT\_SU or HE\_TRIG. | See 25.11a (TXVECTOR parameters SPATIAL\_REUSE for an HE PPDU) for setting rule. | Y | Y |
| Otherwise | Not present | N | N |

***TGax editor: Add the underlined texts of Spatial Reuse field in Table 26-16 and 26-17 in P217 26.3.10.7.2 (Content)***

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| Table 26-16—HE-SIG-A field of an HE SU PPDU and HE extended range SU PPDU(#Ed) |
| Bit | Field | Number of bits | Description |
| B15-B18 | Spatial Reuse | 4 | Set to SR\_Delay Entry to delay the starting time of spatial reuse transmission (see 25.9.2.1 (General) and 25.11a (TXVECTOR parameters SPATIAL\_REUSE for an HE PPDU)). |
| Table 26-17—HE-SIG-A field of an HE MU PPDU(#Ed) |
| Two Parts of HE-SIG-A | Bit | Field | Number of bits | Description |
|  | B11-B14 | Spatial Reuse | 4 | Set to SR\_Restricted Entry to restrict the spatial reuse transmission (see 25.9.2.1 (General) and 25.11a (TXVECTOR parameters SPATIAL\_REUSE for an HE PPDU)). |