IEEE P802.11  
Wireless LANs

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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CR misc MAC | | | | | | Date: 2019-01-01 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Matthew Fischer | Broadcom |  |  | [Matthew.fischer@broadcom.com](mailto:Matthew.fischer@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

Proposed language to define default values for UORA operation by an AP.

The proposed changes address CIDs

15708

15763

15764

16411

16444

16535

17052

which reference TGax D3.0.

Changes are referenced to TGax D3.3.

**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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| 15708 | James June Wang | 27.9.3.3 | 348.20 | Does the statement means the restriction of TXOP limit related SR\_RESTRICTED in the above paragraph shall follow the conditions of 10.22.2.8 TXOP limits ? Please make the statement easier to read. "The restriction, in addition to the TXOP limit, of the PPDU duration within the TXOP is included in the above paragraph related to SR\_RESTRICTED as there are conditions where the TXOP limit can be exceeded (see 10.22.2.8 TXOP limits)". | Please clarify. | Revise - TGax editor to make changes as shown in 11-19/0140r0 that are marked with CID 15708 which clarify the language. |
| 15763 | Jerome Vanthournout | 27.9.2.2 | 338.58 | When we receive an inter-BSS CF-END PPDU, we should clear the basic NAV. But if we follow the OBSS PD spatial reuse rules, we should not update the basic NAV and enter in a spatial reuse transmit power restriction. Maybe something should be clarified in this case, no ? | Add :  "- An CF-END." | Revise - TGax editor to make changes as shown in 11-19/0140r0 that are marked with CID 15763 which add a note indicating that the NAV is not reset when the CF-End is discarded, as the existing language says “not update the NAV” and this means no change to the NAV. |
| 15764 | Jerome Vanthournout | 27.9.2.3 | 339.40 | When we receive an inter-BSS CF-END PPDU, we should clear the basic NAV. But if we follow the OBSS PD spatial reuse rules, we should not update the basic NAV and enter in a spatial reuse transmit power restriction. Maybe something should be clarified in this case, no ? | Add :  "- An CF-END" | Revise - TGax editor to make changes as shown in 11-19/0140r0 that are marked with CID 15764 which add a note indicating that the NAV is not reset when the CF-End is discarded, as the existing language says “not update the NAV” and this means no change to the NAV. |
| 16411 | Massinissa Lalam | 27.9 | 337.30 | With the current Class B accuracy requirements on the absolute transmit power (+/-9dB), all these "nice" equations of the OBSS PD-based spatial reuse can lead to really weird decision since tx power assumed can be wrong up to +9dB. With the current Class B accuracy requirements on the RSSI measurement accuracy, SRP-based spatial reuse operation may also lead to strange results (-/+ 5dB margin).  I can understand that using Matlab-like simulation tool, SR may give an improvement in certain scenarios (since power is set in an absolute manner), but when loose requirements are authorized for a STA which lead to bad reference values to be used to transmit over an existing transmission, then I think that it will not go well in the field.  For instance OBSS PD-based has a dynamic of 20 dB, and a class B can be wrong on its measurement with a 18 dB window (9 dB on both direction) ... decision will be done on values which are highly uncertain (not by 3 dB, but potentially much more than that).  Since this specification seems to allow low-cost devices with very loose requirement in terms of measurements which are essential to spatial reuse operation, I would prefer such devices to be forbidden of using these spatial reuse methods unless their requirements are tighten. | Due to their extremely weak requirements on tx accuracy and RSSI measurement accuracy, Class B STAs shall not be allowed to use spatial reuse operation on other STAs (both OBSS PD-based and SRP-based SR), no matter what the later signal in their transmissions. | Revise - TGax editor to make changes as shown in 11-19/0140r0 that are marked with CID 16411 which prohibit a class B device from employing OBSS PD SR and SRP SR. |
| 16444 | Matthew Fischer | 28.3.22.2 | 579.17 | Given that a new protocol might be defined for the 5.940 band, it would be good to have some way to disable EDCA access by Tgax devices in this band to allow most efficient use of this new spectrum. | Add a signaling mechanism that allows future devices to disable EDCA in Tgax devices operating in channels referenced to 5.940 GHz | Reject – the commenter has not provided a concrete proposal as to how manage a system that does not allow EDCA access. |
| 16535 | Oghenekome Oteri | 28.3.10.7.2 | 473.20 | Table 28-21--"SRP\_DISALLOW" and "SRP\_AND\_NON\_SRG\_OBSS\_PD\_PROHIBITED". Both are doing the same thing i.e. stopping a type or multiple types of SR. Do not understand why we have to use different words | Use one term, disallowed or prohbited | Revise – Tgax editor to change all occurrences of SRP\_DISALLOW to SRP\_PROHIBITED throughout the TGax draft. |
| 17052 | Yongho Seok |  |  | The premable puncturing mechanism on the DFS channels is useful to improve the spectrum efficiency. Please refer the submission (11-18-0496r03). | As in comment. | Revise – group generally agrees with commenter. Tgax editor to note that this comment is satisfied by the previously executed draft text changes found in document 11-18-0496r15 which are already part of TGax D3.3. |
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**Discussion:**

The use of UORA is optional by an AP.

In order to provide some utility in the function, when it is implemented, there should be some baseline expectations of UORA RU availability and frequency.

* UORA used for association procedure (AID12=2045)
  + Need explicit expectations for AP and non-AP STA
  + Goal for an expected typical case = minimize association latency
* Define default UORA parameters to be used by AP
  + E.g. frequency of UORA, number of RA RU per trigger, initial OBO window
  + Recommendations for modifying these parameters
    - Should the need arise per dynamic scenario
* Define nature and timing of association exchange follow up triggers
* Define rules for participation in UORA by non-AP STA

**Proposed Changes to TGax D3.3:**

***TGax editor: within TGax D3.3, modify the text as shown within 27.10.2.3. General operation with SRG OBSS PD level:***

**27.10.2.3 General operation with SRG OBSS PD level**

If the PHY-CCARESET.request primitive is issued before the end of the received PPDU, and a TXOP is initiated within the duration of the received PPDU, then the ending time of the TXOP and the ending time of each transmitted PPDU within that TXOP shall be limited to the ending time of the received PPDU if the received PPDU is an HE MU PPDU and the RXVECTOR parameter SPATIAL\_REUSE indicates SR\_RESTRICTED. **(#15708)**

NOTE—In addition to the TXOP ending time limit, the explicit limitation on the ending time of each PPDU within that TXOP is included in the above paragraph as there are conditions where a PPDU can exceed the ending time of a TXOP that obeys the TXOP limit (see 10.24.2.9 TXOP limits). **(#15708)**

***TGax editor: within TGax D3.3, modify the text as shown within 27.10.2.2. General operation with non-SRG OBSS PD level:***

**27.10.2.2 General operation with non-SRG OBSS PD level**

If the inter-BSS frame is carried in an HE ER SU PPDU (where power of the L-STF/L-LTF symbols is boosted 3 dB), the received signal strength, which is measured from the L-STF or L-LTF fields of the PPDU and which is used to determine PHY-CCA.indication, shall be decreased by 3 dB to compensate for the power difference(#16025)(#15374).(#15706, #15707)

NOTE – In the case of a received CF-End that satisfies the conditions above, either the issuance of a PHY-CCARESET.request or the choice to not update the basic NAV timer both result in the NAV not being cancelled as would normally occur following the successful reception of a CF-End. **(#15763)**

***TGax editor: within TGax D3.3, modify the text as shown within 27.10.2.3. General operation with non-SRG OBSS PD level:***

**27.10.2.3 General operation with SRG OBSS PD level**

If the inter-BSS frame is carried in an HE ER SU PPDU (where power of the L-STF/L-LTF symbols is boosted 3 dB), the received signal strength, which is measured from the L-STF or L-LTF fields of the PPDU and which is used to determine PHY-CCA.indication, shall be decreased by 3 dB to compensate for the power difference(#16025) when compared to the OBSS PD level.(#15707)

NOTE – In the case of a received CF-End that satisfies the conditions above, either the issuance of a PHY-CCARESET.request or the choice to not update the basic NAV timer both result in the NAV not being cancelled as would normally occur following the successful reception of a CF-End. **(#15764)**

***TGax editor: within TGax D3.3, modify the text as shown within 27.10.2.1. General:***

**27.10.2.1 General**

OBSS PD-based spatial reuse operation comprises two types of operation. The first type is defined in 27.10.2.2 (General operation with non-SRG OBSS PD level), and allows a STA, under specific conditions, to ignore an inter-BSS PPDU using a non-SRG OBSS PD level(#17012). The second type is defined in 27.10.2.3 (General operation with SRG OBSS PD level)(#16704) and allows a STA, under specific condi-tions, to ignore inter-BSS PPDUs that are identified as being SRG PPDUs, using an SRG OBSS PD level.(#15656, #17127) In addition to these differences between the two types, Non-SRG OBSS PD Min offset is fixed and defined in the specification while the SRG OBSS PD Min offset can be defined by the AP.(#15739, #15740) A STA may operate using one of the two modes, neither mode, or both modes simul-taneously, except that a STA that is a Class B device shall not perform OBSS PD-based spatial reuse operation. **(#16411)** (#15847)

**27.10.3 SRP-based spatial reuse operation**

**27.10.3.1 General**

An HE STA supporting SRP-based SR PPDU transmission indicates this by setting the SRP-based SR Sup-port subfield to 1 in the HE PHY Capabilities Information field of the HE Capabilities element (see Table 9- 321b (Subfields of the HE PHY Capabilities Information field)). An HE-STA supporting SRP-based SR PPDU reception indicates this by setting the SRP Responder subfield to 1 in the HE MAC Capabilities Information field of the HE Capabilities element (see Table 9-321a (Subfields of the HE MAC Capabilities Information field)). A STA that is a Class B device shall set the SRP Responder subfield to 0 in the HE MAC Capabilities Information field of the HE Capabilities element and shall not perform SRP-based SR operations. **(#16411)**

An HE STA shall set the SRP-based SR Support field to 1 in the HE Capabilities element it transmits if it supports transmitting an SR PPDU under the conditions specified in this subclause; otherwise the STA shall set the SRP-based SR Support field to 0. A STA that is a Class B device shall set the SRP-based SR Support field to 0 in the HE Capabilities element it transmits and shall not perform SRP-based SR operations. **(#16411)**

**End of proposed changes.**