IEEE P802.11
Wireless LANs

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| **CR for CID 12295** |
| **Date:** 2018-04-25 |

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Abstract

This submission proposes resolution for one comment related to TGax D2.0 with the following CID (1 **CID**):

* Provided the resolutions for CID 12295

Revisions:

- Rev 0: Initial version of the document.

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.***

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| **CID** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** | **Owning Adhoc** |
| 12295 | 257.09 | To increase the UL transmission coverage, a non-AP STA uses the narrow bandwidth transmission such as using an OFDMA 26 RU, 52 RU scheduled by a Trigger frame. In this case, SU PPDU sent by a non-AP STA may not be reached to the AP and the EDCA access by a non-AP STA may be restricted. | Define a mechanism of UL MU only access when the UL transmission coverage is needed to be increased. | Revised.Agree in principle.TGax editor to adopt the proposed text changes in 11-18/0xxxr0. | MU  |

**Discussion:**

One of the main motivations for OFDMA Random Access was to allow STAs that are far away from the AP and cannot send SU packets to the AP to be able to close the link with the AP.

When SU transmission by a non-AP STA (which is far away from the AP) is not usually reached to the AP, UL OFDMA transmission on 26/52 RU can be used to increased UL transmission coverage. In this case, EDCA based SU transmission by these non-AP STAs can interfere other ongoing transmissions and reduce the BSS throughput. To solve the problem, per STA based EDCA access restriction needs to be applied and only HE TB PPDU transmission is allowed to these STAs. AP can know the STA’s channel status based on the STA’s information (e.g., the RSSI of the UL frame and UL power headroom). For network efficiency or MU efficiency, AP can disable the EDCA Access of a STA.

**Propose:**

To TGax Editor: Modify the Figure 9-15d as follows:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B2 | B3 B4 | B5 | B6 B8 | B9 | B10 | ~~B10~~ B11 |
|  | Rx NSS | Channel Width | UL MU Disable | Tx NSTS | ER SU Disable | EDCA Access Disable | Reserved |
| Bits: | 3 | 2 | 1 | 3 | 1 | 1 | ~~2~~1 |

**Figure 9-15d—Control Information subfield for OM Control**

To TGax Editor: Add the following text at the end of the subclause 9.2.4.6a.2 (OM Control)

The EDCA Access Disable subfield is set to 1 to indicate that EDCA access of the intended non-AP STA is suspended and set to 0 to indicate that EDCA access of the non-AP STA is resumed. A non-AP STA shall set the EDCA Access Disable subfield to 0.

To TGax Editor: Modify the subclause 27.8.2 (ROM indication) as follows:

**27.8.2 Receive operating mode (ROM) indication**

 (#12842)ROM indication allows the OMI initiator to adapt the maximum operating channel width and/or the maximum number of spatial streams, *Nss*, it can receive from the OMI responder.

An OMI initiator that sends a frame that includes an OM Control subfield should change its OMI parame-ters, Rx NSS and Channel Width, as follows:

— When the OMI initiator changes a ROM parameter from higher to lower, it should make the change for that parameter only after the TXOP in which it received the immediate acknowledg-ment(#11208) from the OMI responder.

— When the OMI initiator changes a ROM parameter from lower to higher, it should make the change for that parameter only(#11685) after the TXOP in which it expects to receive acknowledg-ment(#11208) from the OMI responder.

An OMI initiator that is an HE AP should be capable of receiving within an operating channel width and with *NSS* that are up to the values of the most recently transmitted Channel Width subfield and Rx NSS sub-field that the OMI initiator has successfully indicated in the OM Control subfield or in the Operating Mode field sent to any associated STA.

 NOTE—In the event of transmission failure of the frame containing the OM Control subfield, the OMI initiator attempts the recovery procedure defined in 10.22.2.7 (Multiple frame transmission in an EDCA TXOP).

(#12295)An OMI initiator that is an HE AP may indicate changes in a ROM parameter by sending a frame that contains the OM Control subfield to the OMI responder. The OMI initiator shall set:

— The EDCA Access Disable subfield to 1 to indicate suspension of the EDCA access operation of the intended STA; otherwise it shall set the EDCA Access Disable subfield to 0 to indicate resumption or continuation of participation in the EDCA access operation of the intended STA.

• A non-AP STA that is an OMI initiator shall set the EDCA Access Disable subfield to 0.

(#12295)The AP OMI responder shall suspend the EDCA access operation until the responder receives a frame that contains the EDCA Access Disable subfield set to 0 if the EDCA Access Disable subfield is 1 in the most recently received OM Control subfield sent by the AP.

The OMI responder shall update the operating channel width and the maximum *NSS* values as obtained from the Channel Width and Rx NSS subfields, respectively, of the most recently received OM Control subfield sent by the OMI initiator to send SU PPDUs and to assign an RU allocation in sent MU PPDUs, subject to restrictions defined in 28.3.1.2 (OFDMA(#13427)), addressed to the OMI initiator in subsequent TXOPs.

After transmitting the acknowledgment(#11208) for the frame containing the OM Control subfield, the OMI responder may transmit subsequent SU PPDUs or MU PPDUs that are addressed to the OMI initiator.

NOTE—A subsequent PPDU is a PPDU that is intended for the OMI initiator and need not be the immediately follow-ing PPDU.