IEEE P802.11
Wireless LANs

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| **LB275 Comment Resolutions for CIDs 19163 and 19543** |
| **Date:** 2023-09-10 |
| **Author(s):** |

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| **Name** | **Affiliation** | **Address** | **Phone** | **Email** |
| Eunsung Park | LG Electronics | 19, Yangjae-daero 11gil, Seocho-gu, Seoul 137-130, Korea  |   | esung.park@lge.com |
| Dongguk Lim |  | dongguk.lim@lge.com |
| Jinyoung Chun |  | jiny.chun@lge.com |
| Insik Jung |  | insik0618.jung@lge.com |
| Jinsoo Choi |  | js.choi@lge.com |

Abstract

This submission proposes a resolution for CIDs 19163 and 19543.

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 TGbe D4.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe D4.0 Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

#### *CID 19163*

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| **CID** | **Clause** | **PP.LL** | **Comment** | **Proposed Change** | **Resolution** |
| 19163 | 36.3.2.5 | 715.49 | In '22 Sept, it was decided that SST won't be enabled in secondary 160 MHz during the discussion for 22/1416. This decision arised because the TWT Channel field in the TWT element has only 1 octet and channels within the secondary 160 MHz cannot be specified.Reading "An EHT AP shall not allocate an RU or MRU outside of the primary 20 MHz in a 40 MHz, 80 MHz, 160 MHz, or 320 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA if the 20 MHz operating non-AP EHT STA has not set up SST operation on a nonprimary 20 MHz channel with the EHT AP.", it looks as though the 20 MHz operating non-AP EHT STA can still transmit on the secondary 160 MHz channel. And it is not clear even in other part of the draft. | Add a note after the paragraph starting from pp.ll 715.49 that SST cannot established in the secondary 160 MHz.Also, add a statement that SST operation is limited within the primary 160 MHz when 320 channel is enabled in the BSS in 35.1. | RevisedAgree with the commenter in principle. For consistency, we propose to convert the paragraph which the commenter pointed out into a NOTE as in 36.3.2.7 (80 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA) and 36.3.2.8 (160 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA). Also, we propose to add a text which restricts the secondary 160 MHz allocation to 20 MHz operating STAs in 320 MHz PPDUs into 36.3.2.5 (20 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA) by referring to 35.5.1.2 (RU allocation in an EHT MU PPDU). Moreover, in 35.5.1.2, since the relevant description is missing, we also propose to add it.TGbe Editor: Please make the changes shown in 11-23/1437r1 under all headings that include CID 19163. |

**Discussion**

There are NOTE 3 and NOTE 2 in 36.3.2.7 (80 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA) and 36.3.2.8 (160 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA), respectively, for EHT AP’s behavior regarding RU or MRU allocation to STAs as below.





Thus, for consistency, it would be better to convert the paragraph the commenter pointed out into a NOTE and add a text for the restriction on the secondary 160 MHz by referring to 35.5.1.2. In addition, in 35.5.1.2, the relevant description is missing, and thus, it shoud be added into 35.5.1.2 as well.

*TGbe Editor: Please make the following changes in 36.3.2.5 (20 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA) of D4.0:*

**36.3.2.5 20 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA**

A 20 MHz operating non-AP EHT STA is a non-AP EHT STA that is operating in a 20 MHz channel width, such as a 20 MHz-only non-AP EHT STA or a non-AP EHT STA that reduces its operating channel width to 20 MHz (see 36.1.1 (Introduction to the EHT PHY)).

The operating channel width of a non-AP EHT STA is identified by a CHANNEL\_WIDTH parameter contained in the PHYCONFIG\_VECTOR carried in a PHY-CONFIG.request primitive (see 36.2.4 (PHYCONFIG\_VECTOR)).

NOTE 1—The supported channel width of a non-AP EHT STA is indicated in the Supported Channel Width subfield in the HE PHY Capabilities Information field (see 9.4.2.248.3 (HE PHY Capabilities Information field)) and the Support For 320 MHz In 6 GHz subfield in the EHT Capabilities element (see 9.4.2.313.3 (EHT PHY Capabilities Information field)).

NOTE 2—The operating channel width may be updated by Operating Mode Notification frame, Operating Mode Notification element with the Rx NSS Type subfield equal to 0, or Channel Width subfield in the OM Control subfield (see 9.2.4.6a.2 (OM Control)) if the EHT OM Control subfield (9.2.4.7.8 (EHT OM Control)) is not present in the same A-Control field, or the Channel Width Extension subfield in the EHT OM Control subfield combined with the Channel Width subfield in the OM Control subfield sent by the EHT STA.

A 20 MHz operating non-AP EHT STA shall support the transmission and reception of 26-tone RU, 52-tone RU, and 106-tone RU in locations allowed in 36.3.2.6 (RU and MRU restrictions for 20 MHz operation) within its operating channel for a 40 MHz, 80 MHz, 160 MHz, and 320 MHz OFDMA EHT PPDU.

A 20 MHz operating non-AP EHT STA shall support the transmission and reception of 52+26-tone MRU in locations allowed in 36.3.2.6 (RU and MRU restrictions for 20 MHz operation) within its operating channel for a 40 MHz, 80 MHz, 160 MHz, and 320 MHz OFDMA EHT PPDU, except for a 20 MHz-only non-AP STA with dot11EHT20MhzOnlyLimitedCapabiltiesSupportImplemented equal to true.

A 20 MHz-only non-AP STA with dot11EHT20MhzOnlyLimitedCapabiltiesSupportImplemented equal to true may support the transmission and reception of 52+26-tone MRU in locations allowed in 36.3.2.6 (RU and MRU restrictions for 20 MHz operation) within its operating channel for a 40 MHz, 80 MHz, 160 MHz, and 320 MHz OFDMA EHT PPDU.

A 20 MHz operating non-AP EHT STA may support the reception of 242-tone RU within its operating channel for a 40 MHz, 80 MHz, 160 MHz, and 320 MHz OFDMA EHT PPDU (see 36.3.2.6 (RU and MRU restrictions for 20 MHz operation)). An EHT AP with an operating channel width greater than 20 MHz shall be able to allocate an RU (see 36.3.2.1 (Subcarriers and resource allocation in EHT PPDUs)) or MRU (see 36.3.2.2 (Subcarriers and resource allocation for multiple RUs)) to a 20 MHz operating non-AP EHT STA within the operating channel of the non-AP EHT STA in a 40 MHz, 80 MHz, 160 MHz or 320 MHz OFDMA EHT PPDU as limited by the AP’s operating channel width. The AP’s operating channel width is the same as the BSS channel width. When an EHT AP assigns an RU or MRU to a 20 MHz operating non-AP EHT STA, the EHT AP shall follow the restrictions for 20 MHz operation in 36.3.2.6 (RU and MRU restrictions for 20 MHz operation).

NOTE 3—As defined in 35.11.4 (CENTER\_FREQUENCY\_SEGMENT), a 20 MHz operating non-AP EHT STA operates in the primary 20 MHz channel except when the 20 MHz operating non-AP EHT STA sets dot11HESubchannelSelectiveTransmissionImplemented equal to true in which case the 20 MHz operating non-AP EHT STA might operate in any 20 MHz channel within the BSS bandwidth of 40 MHz, 80 MHz or 160 MHz. The 20 MHz operating non-AP EHT STA might also operate in any 20 MHz channel within the primary 160 MHz when the BSS bandwidth is 320 MHz.

(CID 19163) NOTE 4— An EHT AP does not allocate an RU or MRU in the secondary 160 MHz of a 320 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA (see 35.5.1.2 (RU allocation in an EHT MU PPDU)). An EHT AP does not allocate an RU or MRU outside of the primary 20 MHz in a 40 MHz, 80 MHz, 160 MHz, or 320 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA if the 20 MHz operating non-AP EHT STA has not set up SST operation by following the procedure in 26.8.7 (HE subchannel selective transmission) on a nonprimary 20 MHz channel with the EHT AP.

A 20 MHz operating non-AP EHT STA may support the reception of 40 MHz, 80 MHz and 160 MHz EHT sounding NDP within its operating channel (see Table 9-42f (Settings for BW, Partial Bandwidth Info subfield in the EHT NDP Announcement frame)).

*TGbe Editor: Please make the following changes in 35.5.1.2 (RU allocation in an EHT MU PPDU) of D4.0:*

**35.5.1.2 RU allocation in an EHT MU PPDU**

An EHT STA shall not transmit a 320 MHz EHT MU PPDU in the 6 GHz band with a 2x996+484-tone, 3x996-tone, 3x996+484-tone or 4x996-tone RU or MRU allocated to the other EHT STA, unless the EHT STA has received an EHT Capabilities element with the Support For 320 MHz In 6 GHz subfield in the EHT PHY Capabilities Information field equal to 1 from the other EHT STA and the other EHT STA is in 320 MHz operating bandwidth.

A non-AP EHT STA with dot11EHTSupportFor242ToneRUInBWWiderThan20Implemented equal to false shall set the Support For 242-tone RU In BW Wider Than 20 MHz subfield in the EHT PHY Capabilities Information field in the EHT Capabilities element to 0.

An AP shall not transmit a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT MU PPDU with a 242-tone RU allocated to a 20 MHz operating non-AP EHT STA, unless the AP has received from the 20 MHz operating non-AP EHT STA an EHT Capabilities element with the Support For 242-tone RU in BW Wider Than 20 MHz subfield in the EHT Capabilities Information field equal to 1.

In a 40 MHz, 80 MHz, 160 MHz or 320 MHz EHT MU PPDU, an AP shall not allocate to a 20 MHz operating non-AP STA an RU or MRU that is not supported by the STA as indicated in 36.3.2.6 (RU and MRU restrictions for 20 MHz operation). An AP shall follow the rules in 36.3.2.5 (20 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA), 36.3.2.7 (80 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA), and 36.3.2.8 (160 MHz operating non-AP EHT STAs participating in wider bandwidth OFDMA) if allocating RU(s) or MRU(s) to an non-AP EHT STA whose operating bandwidth is smaller than the BSS operating channel width.

(CID 19163) An EHT AP shall not allocate an RU or MRU in the secondary 160 MHz of a 320 MHz EHT MU PPDU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA. An EHT AP shall not allocate an RU or MRU outside of the primary 20 MHz in a 40 MHz, 80 MHz, 160 MHz, or 320 MHz EHT MU or EHT TB PPDU to a 20 MHz operating non-AP EHT STA if the 20 MHz operating non-AP EHT STA has not set up SST operation on a nonprimary 20 MHz channel with the EHT AP.

An EHT AP shall not allocate an RU or MRU in the secondary 160 MHz channel of a 320 MHz EHT MU PPDU or EHT TB PPDU to an 80 MHz operating non-AP EHT STA. An EHT AP shall not allocate an RU or MRU in the secondary 80 MHz channel of a 160 MHz or 320 MHz EHT MU or EHT TB PPDU to an 80 MHz operating non-AP EHT STA, if the 80 MHz operating non-AP EHT STA has not set up SST operation on the secondary 80 MHz channel with the EHT AP or there is an inactive 20 MHz subchannel within the secondary 80 MHz channel.

An EHT AP shall not allocate an RU or MRU in the secondary 160 MHz of a 320 MHz EHT MU PPDU or EHT TB PPDU to a 160 MHz operating non-AP EHT STA.

#### *CID 19543*

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| **CID** | **Clause** | **PP.LL** | **Comment** | **Proposed Change** | **Resolution** |
| 19543 | 36.3.12.9 | 810.9 | Should "N\_user" in (36-35) be "N\_user,r"? | Correct | RevisedAgree in principle with the commenter.TGbe Editor: Please change “*Nuser*” to “*Nuser, r*” in Equation (36-35). |

**Discussion**

