IEEE P802.11  
Wireless LANs

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| TGbe March 2021 Meeting Minutes | | | | |
| Date: 2021-03-10 | | | | |
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|  |  |  |  |  |

Abstract

This document contains the minutes for March 2021 IEEE TGbe plenary meeting (held electronically).

Revisions:

* Rev0: First revision of the document. Added minutes for the Joint meeting the 10th of March.

# Monday 8 March 19:00 – 21:00 ET

Split PHY and MAC.

* PHY: N/A at this time.
* MAC: N/A at this time.

# Wednesday 10th of March 9:00 – 11:00 ET

1. The Chair, Alfred Asterjadhi (Qualcomm), calls the meeting to order at 09:01 ET. The Chair notifies that the agenda is in [0205r5](https://mentor.ieee.org/802.11/dcn/20/11-21-0205-5-00be-jan-mar-tgbe-teleconference-agendas.docx).
2. IEEE 802 and 802.11 IPR policy and procedure
   1. **Patent Policy: Ways to inform IEEE:**
      * Cause an LOA to be submitted to the IEEE-SA ([patcom@ieee.org](mailto:patcom@ieee.org)); or
      * Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
      * If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair. Speak up now and respond to this Call for Potentially Essential Patents. **Nobody speaks/writes up**.
   2. **The Chair goes through: Participatino in IEEE 802 meetings, and Copyright Policy: Participants are advised that**
      * IEEE SA’s copyright policy is described in [Clause 7](https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7) of the IEEE SA Standards Board Bylaws and [Clause 6.1](https://standards.ieee.org/about/policies/opman/sect6.html) of the IEEE SA Standards Board Operations Manual;
      * Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy
   3. **The Chair goes through: Patent, Participation, Copyright and policy related subclause:** Please refer to *Patent And Procedures* in [0205r5](https://mentor.ieee.org/802.11/dcn/20/11-21-0205-5-00be-jan-mar-tgbe-teleconference-agendas.docx) slide 13 and 14.
3. Attendance reminder.

* Participation slide: <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
* Please record your attendance during the conference call by using the IMAT system:
  + 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.

1. The agenda is available on slide 20 in [0205r5](https://mentor.ieee.org/802.11/dcn/20/11-21-0205-5-00be-jan-mar-tgbe-teleconference-agendas.docx). Agenda approved with unanimuous consent.
2. PDT submissions
   1. [**259r4**](https://mentor.ieee.org/802.11/dcn/21/11-21-0259-04-00be-pdt-trigger-frame-for-eht.docx) **PDT Trigger Frame for EHT Steve Shellammer**

SP1

Do you agree to incorporate changes as instructed in 11/21-259r4 to the TGbe draft?

Result: Supported with unanimous consent.

1. Technical submissions: Trigger frame
   1. [**366r3**](https://mentor.ieee.org/802.11/dcn/21/11-21-0366-03-00be-dicussion-on-he-or-eht-variant-differentiation-of-a-trigger-frame.pptx) **Discussion on HE or EHT variant differentiation of a trigger frame Ross J. Yu**

Summary: The authors discuss mechanisms to enable R1 (non-AP) EHT STAs to participate in an A-PPDU solicited by an R2 EHT AP.

Discussion:

C: Do you think it’s possible with different TF on different sub-blocks?

A: That’s possible.

C: Could you also SP option 2? I believe the option 2 is the more logical option.

A: That is correct, but I would like the EHT STA to be better than HE STA.

C: When do I know if it is a HE or EHT?

A: When you check B39, you can know it.

C: I think method 3 will work with the 160+160 combination. I’m also fine with method 2.

SP1:

Do you agree with the following?

* An EHT non-AP STA will use the HE/EHT P160 subfield (B54) of the Common Info Field and the B39 of the User Info Field to determine whether to transmit an HE or an EHT TB PPDU.
  + If the HE/EHT P160 subfield (B54) of the Common Info Field is set to 1 and B39 of the User Info Field is set to 0, then the EHT non-AP STA will transmit an HE TB PPDU, otherwise it will transmit an EHT TB PPDU.
  + Note: B39 is reserved and set to 0 for an HE variant User Info Field, and is PS160 for an EHT variant User Info Field
  + Note: an EHT STA shall not transmit EHT TB PPDU if Special User Info Field Present is set to 0 (indicating not present)

Yes/No/Abstain/No-answer: 93/25/68/131.

* 1. [**0269r1**](https://mentor.ieee.org/802.11/dcn/21/11-21-0269-01-00be-psr-based-sr-normalization-discussion.pptx) **PSR-based SR Normalization Discussion RossJ. Yu**

Summary: The authors discuss solutions for TGax and TGbe on how to solve a power normalization issue that occurs in PSR based SR.

SP1:

* Do you agree that:
  + For TxPower\_PSRT, PSR, RPL, the normalization is always per 20MHz regardless of the BW field of the EHT TB PPDU?
  + when BW=80MHz,
    - Spatial Reuse 1 field applies to each 20MHz subchannel of the first 40 MHz subband of the 80MHz operating band.
    - Spatial Reuse 2 field applies to each 20MHz subchannel of the second 40 MHz subband of the 80MHz operating band.
  + When BW=160MHz,
    - Spatial Reuse 1 field applies to each 20MHz subchannel of the first 80 MHz subband of the 160MHz operating band.
    - Spatial Reuse 2 field applies to each 20MHz subchannel of the second 80 MHz subband of the 160MHz operating band.
  + When BW=320MHz,
    - Spatial Reuse 1 field applies to each 20MHz subchannel of the first 160 MHz subband of the 320MHz operating band.
    - Spatial Reuse 2 field applies to each 20MHz subchannel of the second 160 MHz subband of the 320MHz operating band.
  + This is for R1, will bring a PDT for P802.11be D0.4

Result: Supported with unanimous consent.

* 1. [**152r1**](https://mentor.ieee.org/802.11/dcn/21/11-21-0152-01-00be-ul-spatial-reuse-subfield-design-in-enhanced-trigger-frame.pptx) **UL SR Subfield Design in Enhanced Trigger Frame Eunsung Park**

Summary: The authors look into how to deal with how to set the 16-bit UL Spatial Reuse subfield as well as the 8-bit Spatial Reuse subfield when only EHT TB PPDU is triggered in R1.

SP1:

* Do you support the following?
  + When EHT TB PPDU is triggered in R1, 16-bit UL Spatial Reuse subfield in the Common Info field of Trigger Frame is defined as follows
    - HSR1 = HSR2 = HSR3 = HSR4 = 0
  + HSR1, HSR2, HSR3 and HSR4 denote the first, second, third and fourth 4-bit values in 16-bit UL Spatial Reuse subfield, respectively
  + Note: This is for release 1

Discussion:

Yes.

Result: Yes/No/Abstain/No-answer: 56/53/78/146.

SP2:

* **Do you support the following?**
  + When EHT TB PPDU is triggered in R1, 16-bit UL Spatial Reuse subfield in the Common Info field of Trigger Frame is defined as follows
    - 20MHz
      * HSR1 = HSR2 = HSR3 = HSR4 = ESR1
    - 40MHz
      * HSR1 = HSR3 = ESR1
      * HSR2 = HSR4 = ESR2
    - 80/160MHz
      * HSR1 = HSR2 = ESR1
      * HSR3 = HSR4 = ESR2
      * Modified ESR can be used depending on the normalization
    - 320MHz
      * HSR1 = HSR2 = HSR3 = HSR4 = min(ESR1, ESR2)
      * Modified ESR can be used depending on the normalization
    - HSR1, HSR2, HSR3 and HSR4 denote the first, second, third and fourth 4-bit values in 16-bit UL Spatial Reuse subfield, respectively
    - ESR1 and ESR2 denote the first and second 4-bit values in 8-bit Spatial Reuse subfield in the Special User Info field of Trigger Frame, respectively
  + Note: This is for release 1

Result: Yes/No/Abstain/No-answer: 86/19/82/144.

1. Motions
   1. **Move to approve TGbe minutes of teleconferences listed below:**

Electronic January: <https://mentor.ieee.org/802.11/dcn/21/11-21-0103-01-00be-tgbe-january-2021-meeting-minutes.docx>

Teleconferences Jan-March: <https://mentor.ieee.org/802.11/dcn/21/11-21-0135-07-00be-jan-mar-tgbe-teleconference-minutes.docx>

Move: Dennis Sundman, Second: Ross Jian Yu

Discussion: None.

Result: Approved with unanimous consent.

* 1. **Motion 153 (PHY-1)**

Move to approve resolutions to the CIDs:

* + 1377, 1378, 1622, 1970, 3049, 3184, 3185, 3293, 3294 in [235r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0235-01-00be-eht-sig-cr-d03-part-1.doc) *[9 CIDs]*
  + 1394, 1395, 1396, 1397, 1398, 1402, 1403, 1564, 1565, 1623, 2404, 2405, 2406, 2407, 2408, 2409, 2682, 2683, 2684, 2685, 2810, 3107, 3186, 3188, 3192, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305 in [236r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0236-01-00be-eht-sig-cr-d03-part-2.doc) *[36 CIDs]*
  + 1252, 1302, 1304, 1305, 1553, 2698, 2992, 3276, 3277, 3278 in [273r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0273-01-00be-d0-3-cr-for-36-3-2-5.docx) *[10 CIDs]*
  + 2662, 2815, 3076, 3110, 3113, 3114, 3312 in [274r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0274-00-00be-d0-3-cr-for-36-3-11-9.docx) *[7 CIDs]*
  + 1406, 1624, 1625, 3004, 3081, 3194 in [275r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0275-00-00be-eht-sig-cr-d03-part-3.doc) *[6 CIDs]*

Move: Edward Au, Second: Bin Tian

Discussion: None.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. **Motion 154 (PHY-2)**

Move to approve resolutions to the CIDs:

* + 3054, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3064 in [289r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0289-00-00be-eht-sig-cr-d03-part-4.doc) *[9 CIDs]*
  + 1256, 2609, 1257, 1325, 1327, 1326, 1258, 1558, 1317, 2608, 1320, 1322, 1323, 1324, 1328, 3285, 1611 in [328r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0328-01-00be-d03-crs-on-timing-related-parameters.docx) *[17 CIDs]*
  + 1629, 2812, 2813, 2814, 3066, 3067, 3108, 3109, 3307, 3308, 3309, 3310, 3311 in [322r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0322-01-00be-11be-d0-3-cr-on-36-3-11-8-6.docx) *[13 CIDs]*
  + 1343, 1344, 2789, 3000, 3102 in [294r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0294-00-00be-cr-for-clause-36-3-11-3.docx) *[5 CIDs]*
  + 2027, 2028, 2029, 2030, 2031, 2219 in [297r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0297-01-00be-beamforming-cid-cr-d03.doc) *[6 CIDs]*

Move: Edward Au, Second: Rojan Chitrakar

Discussion: No discussion.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. **Motion 155 (PHY-3)**

Move to approve resolutions to the CIDs:

* + 1309, 1311, 1963, 1964, 2762, 3043, 3156, 3157, 3158, 3168 in [293r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0293-02-00be-cr-for-clause-36-3-4.docx) *[10 CIDs]*
  + 2410 in [337r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0337-00-00be-eht-sig-cr-d03-cid2410.doc) *[1 CID]*
  + 2956, 2957 in [358r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0358-00-00be-d0-3-cr-for-section-36-3-18-4-3-and-36-3-19-2.docx) *[2 CIDs]*

Move: Edward Au, Second: Ross Jian Yu

Discussion: No discussion.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. **Motion 156 (MAC-1)**

Move to approve resolutions to the CIDs:

* + 1027, 2561, 1107, 3411, 1108, 2090, 2282, 2356, 3255, 2325, 1167, 2601, 1695, 3031, 1168, 2252, 3032, 1818, 1696, 3321, 1635, 3203, 2326, 1169 in [250r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0250-02-00be-cc34-resolution-for-cids-related-to-mlo-power-save.docx) *[24 CIDs]*
  + 1156, 1668, 1779, 1920, 2123, 2493, 2547, 2548, 2827, 2970, 3371, 1158, 2759, 2473, 2588, 1670 in [296r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0296-04-00be-cr-for-35-3-3.docx) *[16 CIDs]*

Move: Po-Kai Huang, Second: Ming Gan

Discussion: None.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. **Motion 157 (MAC-2) *as amended***

Move to accept changes to the TGbe draft as specified in the following documents:

* + Joint: [11r10](https://mentor.ieee.org/802.11/dcn/21/11-21-0011-10-00be-proposed-draft-text-pdt-joint-spatial-stream-and-mimo-protocol-enhancement-part-2.docx), [137r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0137-04-00be-proposed-draft-text-pdt-joint-fix-tbds-in-spatial-stream-and-mimo-protocol-enhancement-part-1.docx),
  + MAC: [1727r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1727-04-00be-pdt-mac-mlo-6-3-x-nsep-priority-access.docx), [1667r5](https://mentor.ieee.org/802.11/dcn/20/11-20-1667-05-00be-pdt-mac-mlo-discovery-information-request.docx), [113r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0113-01-00be-pdt-fix-the-tbds-in-association-and-reassociation-primitives.docx), [132r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0132-03-00be-pdt-mac-mlo-blindness.docx), [1651r8](https://mentor.ieee.org/802.11/dcn/20/11-20-1651-08-00be-pdt-tbds-mac-mlo-discovery-discovery-procedures-including-probing-and-rnr.docx), [290r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0290-00-00be-editorial-fixes-to-subclause-35-3-4-3.docx), [081r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0081-05-00be-mlo-group-addressed-frame.docx), [142r9](https://mentor.ieee.org/802.11/dcn/21/11-21-0142-09-00be-pdt-mac-restricted-twt.docx), [131r7](https://mentor.ieee.org/802.11/dcn/21/11-21-0131-07-00be-proposed-draft-specification-for-om-in-a-control.docx), [87r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0087-06-00be-pdt-mac-triggered-su.docx), [169r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0169-00-00be-pdt-mlo-txop-termination-of-nstr-mld.docx), [55r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0055-04-00be-mac-pdt-motion-137-sp-244.docx)
  + PHY: [193r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0193-01-00be-pdt-phy-transmit-requirements-for-ppdus-sent-in-response-to-a-triggering-frame.docx), [220r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0220-01-00be-pdt-eht-preamble-eht-sig-for-d0-4-part-2.docx), [224r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0224-04-00be-pdt-eht-phy-capabilities-information-field.docx),

Move: Edward Au, Second: Wook Bong Lee

Discussion:

C: I believe 142 is r9.

*Runinng Motion on amending.*

Result: Approved with unanimous consent.

*Note: These are all proposed draft texts (PDTs) that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. **Motion 157-a**

Move to amend 157 by replacing 142r8 with 142r9.

Move: Chunyu Hu, Second: Ming Gan

Discussion: No discussion.

Result: Approved with unanimous consent.

* 1. **Motion 158 (MAC-2)**

Move to approve resolutions to the CIDs:

* + 1010, 1128, 1011, 1014, 1020, 1130, 1023 in [252r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0252-04-00be-cc34-resolution-for-misc-cids-related-to-clause-9-11.docx) *[7 CIDs]*
  + 1126, 1004, 2246, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 1009, 1121, 1133, 1022 in [253r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0253-01-00be-cc34-resolution-for-cids-related-to-eht-capabilities-ie.docx) *[14 CIDs]*
  + 1006, 2095, 1774, 1897, 2860, 1831, 1007, 1898, 2861, 1154, 2850, 2450, 3366, 3152, 1716, 2898, 1477, 1155, 1414, 2581, 3367, 3359, 2583, 3360, 2859, 2295, 1494, 1033, 2580, 2181, 1183, 1777, 1918, 2414, 2582, 3211, 3249, 3368, 2182, 1744, 1047, 3221, 2120, 2584, 3210, 2585, 1415, 2744 in [242r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0242-04-00be-cc34-resolution-for-cids-related-to-ml-ie.docx) *[48 CIDs]*
  + 2004 in [131r7](https://mentor.ieee.org/802.11/dcn/21/11-21-0131-07-00be-proposed-draft-specification-for-om-in-a-control.docx) *[1 CID]*

Move: Stephen Palm, Second: Laurent Cariou

Discussion: None

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. Motion 159 (PHY-4)

Move to approve resolutions to the CIDs:

* + 1259, 1330, 1331, 1332, 1335, 1336, 1337, 1339, 1340, 1341, 1559, 1560, 1968, 2611, 2612, 2613, 2615, 3044, 3170, 3171 in [323r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0323-01-00be-comment-resolutions-for-clause-36-3-10-mathematical-description-of-signals.docx) *[20 CIDs]*
  + 1307, 1308, 1554, 3155 in [334r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0334-03-00be-cr-for-clause-36-3-3.docx) *[4 CIDs]*
  + 1142, 2642, 2648, 2649, 2903, 2950, 3115, 3116 in [324r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0324-02-00be-comment-resolutions-for-clause-36-3-12-3-coding.docx) *[8 CIDs]*
  + 1081, 2255 and 2990 in [292r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0292-02-00be-cr-for-cid-1081-2255-and-2990.docx) *[3 CIDs]*

Move: Edward Au, Second: Bin Tian

Discussion: None.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

* 1. Motion 160 (Joint-1)

Move to accept changes to the TGbe draft as specified in the following documents:

[259r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0259-04-00be-pdt-trigger-frame-for-eht.docx)

Move: Steve Shellhammer, Second: Bin Tian

Discussion: None.

Result: Approved with unanimous consent.

*Note: These are comment resolution documents that obtained ≥ 75% support during the straw poll phase and that have NOT received a request for further discussion*

1. Comment resulotion submissions.
   1. [**330r0**](https://mentor.ieee.org/802.11/dcn/21/11-21-0330-00-00be-d0-3-cr-for-section-10-6-and-10-23.docx) **D0.3 CR for Section 10.6 and 10.23 Wook Bong Lee**

Summary: Wook Bong goes through the document. Some live updates.

**Recess at 11:00.**

**References:**