IEEE P802.11  
Wireless LANs

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| TGbe July to September 2021 teleconference minutes | | | | |
| Date: 2021-07-22 | | | | |
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Abstract

This document contains the minutes for July 2021 IEEE 802.11 plenary TGbe teleconferences.

List of revisions:

Rev0: First revision of the document.

Rev1: Updated the results of Motion 218, updated some minor typological text.

# Monday, July 12, MAC/PHY (19:00-21:00)

Split PHY and MAC.

* PHY: <https://mentor.ieee.org/802.11/dcn/21/11-21-1133-01-00be-minutes-for-tgbe-phy-ad-hoc-july-plenary.docx>
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-1189-01-00be-minutes-for-tgbe-mac-ad-hoc-teleconferences-in-july-2021-plenary.docx>

# Wednesday, July 14, Joint (09:00-11:00)

1. The Chair, Alfred Asterjadhi (Qualcomm), calls the meeting to order at 09:01 ET. The Chair notifies that the agenda is in 924r5. The Chair reminds about attendance.
2. IEEE 802 and 802.11 IPR policy and procedure
   1. The chair goes through Attendance, Voting & Document Status: Slide 5 in 924r5.
   2. The Chair reminds about the agenda, Slide 6 in 924r5.
   3. Patent Policy: Ways to inform IEEE slide 7-9 in 924r5:
      * 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**.
   4. The Chair goes through: Other guidelines for IEEE WG meetings, Patent-related information, Participation in IEEE 802 Meetings, and Copyright Policy (slide 13): Participants are advised that
      * The Chair encourages the members to carefully read slides 14-15 in 924r5.
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. Agenda. The Chair shows the agenda.
   1. The Chair asks if there are any MAC submissions to add to the queue. No response.
   2. The agenda is approved with unanimous consent.
2. TGbe Editor Status Report.
   1. Edward goes through 1062r1.
3. PDT/CR submissions
   1. [662r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0662-03-00be-cr-for-35-4-2-ul-mu-operation.docx) CR for 35.4.2 UL MU operation Jason Y. Guo
      * Jason goes through the document.
      * SP: Do you agree to incorporate the changes as instructed in 11/21-662r4 to the TGbe draft that are identified by the following CID tagsthe TGbe draft?
        + 1088

Result: Supported with no objection from the group.

* 1. [915r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0915-00-00be-mac-cr-to-mr-comments.docx) MAC-CR to MR Comments Alfred Asterjadhi
     + Alfred temporarily hands over the Chair to Liwen Chu. Alfred goes through the document.
     + Several comments and updates to the document.

Alfred rearranges the agenda to have time for motions. Nobody objects.

1. Motions 1982r29
   1. Approve TG Minutes.

**Move to approve TGbe minutes of teleconferences listed below:**

* + - May Electronic Plenary: <https://mentor.ieee.org/802.11/dcn/21/11-21-0902-00-00be-tgbe-may-2021-meeting-minutes.docx>
    - Teleconferences May-July: <https://mentor.ieee.org/802.11/dcn/21/11-21-0922-05-00be-may-july-tgbe-teleconference-minutes.docx>

**Move: Dennis Sundman Second: Rojan Chitrakar**

**Discussion: No discussion.**

**Result: Approved with unanimous consent.**

* 1. Motion 213

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

* + - MAC: [467r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0467-02-00be-cr-for-35-3-4-3-multi-link-element-usage.docx)
    - PHY: [995r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0995-01-00be-proposed-draft-text-pdt-phy-modulation-accuracy-update.docx), [1003r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1003-00-00be-pdt-for-supported-eht-mcs-and-nss-set-field.docx)
    - Joint: [960r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0960-01-00be-pdt-eht-psr-based-sr-part2.docx), [991r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0991-03-00be-pdt-on-mu-rts.docx)

**Move: Edward Au Second: Bin Tian**

**Discussion: No discussion.**

**Result: Approved with unanimous consent.**

* 1. Motion 214 (MAC-1)

**Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:**

* 1110, 1112, 1721, 1722, 1820, 2257, 2258, 2264, 2265, 2266, 2274, 3345 in [510r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0510-05-00be-cr-for-clauses-3-1-and-4-5-11a-on-nsep.docx) *[12 CIDs]*
* 1482, 1661, 2141, 2259, 2455, 2958 in [530r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0530-05-00be-cr-nstr-link-pair-definition.docx) *[6 CIDs]*
* 1028, 2505, 2594 in [300r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0300-03-00be-crs-for-d0-3-group-key-handshake-cids.docx) *[3 CIDs]*
* ~~2236~~, 2235, 1000, 2118, 2238, 2263, 3006, 2900, 1762, 3415, 2091 in [700r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0700-01-00be-cr-for-4-5-3.docx) *[11 CIDs]*
* 1851, 1810, 2894, 1211, 1166, 1025, 2896, 1848, 1849, 2897, 1847 in [435r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0435-03-00be-cr-for-11-3-5.docx) [11 CIDs]

**Discussion:**

**C: I would like to pull 2236 out of this. 2236 is removed.**

**Move: Subir Das Second: Mike Montemurro**

**Discussion: No further discussion.**

**Result: Y/N/A/No-answer: 91/1/38/221. Motion passes.**

* 1. Motion 215 (MAC-2)

**Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:**

* 1194, 1714, 2318, 3253 in [523r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0523-03-00be-cr-for-35-3-5-4-multi-link-setup-ie-usage.docx) *[4 CIDs]*
* 2476, 3133 in [788r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0788-01-00be-tgbe-cc34-cids-2476-3133.docx) *[2 CIDs]*
* 1056, 1057, 1730, 1747, 1789, 2319, 2348, 2966, 3153, 3220, 2125, 2479 in [499r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx) *[12 CIDs]*
* 2416 in [500r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0500-05-00be-cr-for-35-3-2-3.docx) *[1 CID]*
* 2239, 2720, 3410, 3417 in [577r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0577-05-00be-cr-mld-architecture.docx) *[4 CIDs]*

**Move: Edward Au Second: George Cherian**

**Discussion: No discussion.**

**Result: Approved with unanimous consent.**

* 1. Motion 216 (MAC-3)

**Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:**

* 3017 in [569r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0569-02-00be-cr-for-cid-3017.docx) *[1 CID]*

**Move: Xiaofei Wang Second: Edward Au**

**Discussion: No discussion**

**Result: Approved with unanimous consent.**

* 1. Motion 217 (Joint)

Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:

* 1088 in 662r4

Move: Jason Guo Second: Edward Au

Discussion: No discussion.

Result: Approved with unanimous consent.

* 1. Motion 218

**Move to agree that**

* **For the transmit spectral mask, the absolute PSD floor is defined as a fixed value of -39 dBm/MHz.**
  + This value doesn’t scale with the PPDU BW.
  + This value is applied to 5GHz and 6GHz band.

**Move: Xiagoang Chen Second: Wook Bong Leee**

**Discussion:**

**C: What is the intention of this motion? What does it mean going forward?**

**C: I don’t like this motion since it doesn’t provide any action.**

**Preliminary Result: Y/N/A/No-answer: 60/30/69/176. Preliminary fails.**

**Result: Y/N/A: 54/26/65 🡪 Fails.**

1. Recess at 10:59.

# Thursday, July 15, MAC/PHY (09:00-11:00)

Split PHY and MAC.

* PHY: <https://mentor.ieee.org/802.11/dcn/21/11-21-1133-01-00be-minutes-for-tgbe-phy-ad-hoc-july-plenary.docx>
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-1189-01-00be-minutes-for-tgbe-mac-ad-hoc-teleconferences-in-july-2021-plenary.docx>

# Monday, July 19, Joint (09:00-11:00)

1. The Chair, Alfred Asterjadhi (Qualcomm), calls the meeting to order at 09:01 ET. The Chair notifies that the agenda is in 924r8. The Chair reminds about attendance.
2. IEEE 802 and 802.11 IPR policy and procedure
   1. Patent Policy: Ways to inform IEEE slide 7-9 in 924r8:
      * 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: Other guidelines for IEEE WG meetings, Patent-related information, Participation in IEEE 802 Meetings, and Copyright Policy (slide 13): Participants are advised that
      * The Chair encourages the members to carefully read slides 14-15 in 924r8.
   3. The chair goes through Attendance, Voting & Document Status: Slide 5 in 924r8.
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. **Announcements:**
   1. CC34/PDT queues will be cleaned up after this conference call. Focus will be CC36.
2. Agenda. The Chair shows the agenda.
   1. C: 1399 has revision 2.
   2. C: I would like to continue the discussion on 1247r2.

Agenda approved with unanimous consent.

1. **Technical Submissions:**
   1. [1903r3](https://mentor.ieee.org/802.11/dcn/20/11-20-1903-03-00be-random-access-for-11be.pptx) Random Access for 11be Pascal Viger [SP-10’]

Pascal provides a quick recap of the presentation.

Straw Poll #1:

* Do you support that 802.11be allows NFRP mechanism to support a Random-Access allocation ?
  1. STAs randomly select an RU Tone Set Index and a Feedback Status
  2. STAs that win NFRP contention are then scheduled by their RU Tone set Index.

Note: This is an R2 feature.

Result: Yes/No/Abstain/No-answer: 33/66/50/71.

* 1. [1247r2](https://mentor.ieee.org/802.11/dcn/20/11-20-1247-02-00be-virtual-bss-for-multi-ap-coordination.pptx) Making BSS transitions obsolete with multi-AP operations (Virtual BSS) Jay Yang

Jay recaps the presentation.

Discussion:

C: You want multiple APs sharing the same key?

A: Yes.

C: Why don’t you put all these in one MLD framework? Is it built on top of the MLD?

A: Yes it is built on top of MLD. It is possible to do it on the MLD level.

C: Are there any reassociation when the STA moves from AP 1 to AP2?

A: No.

C: Are there anything specific regardi PHY assumptions, for example synchronization or PHY level coordination?

A: I believe it’s mostly MAC level.

C: Is this operation transparent to the STA?

A: Yes, the STA see only one AP.

Straw Poll

* Do you think the 802.11 TGbe should develop a solution which allows multiple AP MLDs to be operated in a way that makes BSS transition obsolete within a Multiple AP MLD set?

This is an R2 feature

Result: Yes/No/Abstain/No-answer: 34/54/63/94.

* 1. [1399r1](https://mentor.ieee.org/802.11/dcn/20/11-20-1399-02-00be-on-joint-c-sr-and-c-ofdma-m-ap-transmission.pptx) On Joint C-SR and C-OFDMA M-AP TX Rui Yang [30’]

Rui goes through the presentation.

Discussion:

C: Have you considered that different APs may use different channels rather than OFDMA?

A: We are discussing C-SR here.

C: In the bottom table you have the SNR it’s based on the value from one AP?

A: Yes.

C: Is the overhead included in the simulation results.

A: Yes.

C: Sharing AP needs to know a bit about the buffer status at the other APs.

A: Our assumption is that the sharing AP is quite powerful and it can collect the required information.

1. **Motions (during 2nd half of meeting):** [**1982r30**](https://mentor.ieee.org/802.11/dcn/20/11-20-1982-30-00be-tgbe-motions-list-for-teleconferences-part-2.pptx)
   1. **Motion 219 (MAC-**4)

Whereas CID 2329 should have been deferred,

Move to reconsider (update) Motion 213 by excluding the incorporation of changes identified by the CID tag 2329 to the TGbe draft, which were provided in [467r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0467-02-00be-cr-for-35-3-4-3-multi-link-element-usage.docx).

Discussion:

C: Do you really mean to use the word “reconsider”. I would suggest to change that word.

A: I will add update in parathesis to clarify.

Move: Yongho Seok, Second: Ming Gang

Discussion: No discussion.

Result: Approved with unanimous consent.

Note excerpt of Motion 213: “Move to approve changes to the TGbe draft as specified in the following documents: MAC: [467r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0467-02-00be-cr-for-35-3-4-3-multi-link-element-usage.docx), …”. Hence, the TGbe editor is instructed to incorporate the changes in 467r2 identified by the remaining CID tags: 1191, 1192, 2096, 2323, 2422, 2423, 2977

Note: 467r2 is a CR document and was erroneously listed as a PDT. CID 2329 was deferred when the MAC ad-hoc group ran the SP on [467r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0467-02-00be-cr-for-35-3-4-3-multi-link-element-usage.docx) on July 12th, 2021. The SP on the remaining CIDs of the doc obtained no objection.

* 1. Motion 220 (CC36-PHY-1)

Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:

* 8025 in [1052r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1052-01-00be-cc36-cr-for-36-3-12-9-eht-stf.docx) *[1 CID]*
* 4511, 5467 in [1053r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1053-01-00be-cc36-cr-for-36-3-2-6-ru-and-mru-restrictions-for-20-mhz-operation.docx) *[2 CIDs]*
* 4516, 4971, 4972, 4973, 4974 in [1054r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1054-01-00be-cc36-cr-for-cid-4971-to-4974.docx) *[5 CIDs]*
* 4546, 7186, 4841, 8094, 7187, 7188, 4842, 6433, 4843, 7476, 7189, 4548, 5474 in [1127r2](https://mentor.ieee.org/802.11/dcn/21/11-21-1127-02-00be-cc36-cr-on-ppdu-encoding-process.docx) *[13 CIDs]*
* 7282, 4914, 7283, 4557, 7284 in [1131r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1131-00-00be-cc36-plme.docx) *[5 CIDs]*

Move: Edward Au, Second: Bin Tian

Discussion: No discussion.

Result: Approved with unanimous consent.

* 1. Motion 221 (CC36-PHY-2)

Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:

* 8152 in [1088r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1088-00-00be-cc36-cr-on-36-6.doc) *[1 CID]*
* 4670, 4854, 4855, 4856, 5416, 5417, 5418, 5420, 5478, 5479, 5528, 6153, 6438, 6439, 6467, 6468, 6469, 7002, 8110, 8111, 8112, 8113, 8114, 8115 in [1057r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1057-03-00be-cr-on-36-3-12-8-3-part1.doc) *[24 CID]*
* 7209, 7210, 4852, 5415, 8108, 8109, 8016, 8106, 8017, 8107, 8018, 4851 in [1048r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1048-00-00be-cc36-cr-on-36-3-12-8-1-general.doc) *[12 CID]*
* 5484 in [1042r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1042-03-00be-cc36-cr-on-spatial-configuration-subfield.doc) *[1 CID]*
* 4915, 4916, 5433, 6473, 6474, 6475 in [1041r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1041-00-00be-cc36-cr-on-annex-z.doc) *[6 CID]*

Move: Edward Au, Second: Ross Jian Yu

Discussion: No discussion.

Result: Approved with unanimous consent.

* 1. Motion 222 (CC36-PHY-3)

Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:

* 5093, 7971 in [1107r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1107-01-00be-cc36-cr-on-36-3-5.doc) *[2 CID]*
* 4910, 6830, 6831, 7012 in [1121r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1121-00-00be-cc36-cr-on-36-3-13-10.docx) *[4 CID]*
* 5719, 7998 in [1101r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1101-01-00be-cc36-cr-for-36-3-12-6-rl-sig.docx) *[2 CID]*

Move: Edward Au, Second: Bin Tian

Discussion: No discussion.

Result: Approved with unanimous consent.

* 1. Motion 223 (MAC-5)

Move to approve changes to the TGbe draft as specified in the documents below and identified by the following CID tags:

* 1751, 1684, 2445, 3029, 2871, 2870, 1930, 1931, 1199, 1932, 1686, 1446, 1427, 1065, 3339, 2353, 3340, 2837, 1689, 2713, 1752, 2756, 2838, 3383 in [285r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0285-04-00be-cc34-resolution-for-cids-related-to-mlo-ba-procedure.docx) *[24 CIDs]*

Move: Abhishek Patil, Second: Stephen McCann

Discussion: No discussion

Result: Approved with unanimous consent.

* 1. Motion 224

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

* + - MAC: Only part I in [971r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0971-03-00be-pdt-for-fast-ml-transition.docx)

Move: Edward Au, Second: Po-Kai Huang

Discussion: No discussion

Result: Approved with unanimous consent.

* 1. Motion 225

Move to instruct the TGbe Editor to create IEEE802.11be D1.1 draft after incorporating the approved changes as specified in Motions 204 to 224 (motions with numerical values).

Move: Abhishek Patil, Second: Laurent Cariou

Discussion: No discussion.

Result: Approved with unanimous consent.

1. **Technical Submissions:**
   1. [1672r2](https://mentor.ieee.org/802.11/dcn/20/11-20-1672-02-00be-ul-beamforming-for-tb-ppdus.pptx) UL Beamforming for TB PPDUs Shimi Shilo [30’]

Shimi goes through the document.

No time for discussion.

1. **AoB: No other business.**
2. **Adjourn at 10:59.**