IEEE P802.11  
Wireless LANs

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| TGbe May to July 2021 teleconference minutes | | | | |
| Date: 2021-06-04 | | | | |
| Author(s): | | | | |
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|  |  |  |  |  |

Abstract

This document contains the meeting minutes for May to July 2021 TGbe teleconferences.

Revisions:

* Rev 0: First revision of the document. Contains references and minutes for meetings held 20th of May to 3rd of June.

# 6th Conf. Call: May 20 (10:00–12:00 ET)

Split PHY and MAC.

* PHY: <https://mentor.ieee.org/802.11/dcn/21/11-21-0819-01-00be-minutes-802-11-be-phy-ad-hoc-may-2021-interim-session.docx>
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-0873-00-00be-minutes-for-tgbe-mac-may-2021-interim-session.docx>

# 7th Conf. Call: May 24 (19:00–21:00 ET)

Split PHY and MAC.

* PHY: cancelled.
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-0873-00-00be-minutes-for-tgbe-mac-may-2021-interim-session.docx>

# 8th Conf. Call: May 26 (10:00–12:00 ET)

1. The Chair, Alfred Asterjadhi (Qualcomm), calls the meeting to order at 10:01 ET. The Chair notifies that the agenda is in [785r8](https://mentor.ieee.org/802.11/dcn/21/11-21-0785-08-00be-may-july-tgbe-teleconference-agenda.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
      * Speak up now and respond to this Call for Potentially Essential Patents. **Nobody speaks/writes up**.

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

* 1. The Chair goes through: 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
  2. The Chair goes through: Patent, Participation, Copyright and policy related subclause: Please refer to *Patent And Procedures* in [785r8](https://mentor.ieee.org/802.11/dcn/21/11-21-0785-08-00be-may-july-tgbe-teleconference-agenda.docx).

1. 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:
  + 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.
* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Dennis Sundman ([dennis.sundman@ericsson.com](mailto:dennis.sundman@ericsson.com)) and Alfred Asterjadhi ([aasterja@qti.qualcomm.com](mailto:aasterja@qti.qualcomm.com))
* Please ensure that the following information is listed correctly when joining the call:
  + "[voter status] First Name Last Name (Affiliation)"
  + Aboulmagd, Osama Huawei Technologies Co., Ltd
  + Abushattal, Abdelrahman Istanbul Medipol university ;Vestel
  + Akhmetov, Dmitry Intel Corporation
  + Ansley, Carol Cox Communications Inc.
  + Asterjadhi, Alfred Qualcomm Incorporated
  + Au, Kwok Shum Huawei Technologies Co., Ltd
  + Baek, SunHee LG ELECTRONICS
  + Bahn, Christy IEEE STAFF
  + Bankov, Dmitry IITP RAS
  + baron, stephane Canon Research Centre France
  + Barr, David MaxLinear
  + Bredewoud, Albert Broadcom Corporation
  + Cao, Rui NXP Semiconductors
  + Cariou, Laurent Intel Corporation
  + Carney, William Sony Group Corporation
  + Cheng, Paul MediaTek Inc.
  + Chitrakar, Rojan Panasonic Asia Pacific Pte Ltd.
  + Chu, Liwen NXP Semiconductors
  + CHUN, JINYOUNG LG ELECTRONICS
  + Das, Subir Perspecta Labs Inc
  + de Vegt, Rolf Qualcomm Incorporated
  + Dong, Xiandong Xiaomi Inc.
  + Erceg, Vinko Broadcom Corporation
  + Fang, Yonggang Mediatek
  + feng, Shuling MediaTek Inc.
  + Fischer, Matthew Broadcom Corporation
  + Ghaderipoor, Alireza MediaTek Inc.
  + Gu, Xiangxin Unisoc
  + Haider, Muhammad Kumail Facebook
  + Han, Jonghun SAMSUNG
  + Han, Zhiqiang ZTE Corporation
  + Handte, Thomas Sony Corporation
  + Hervieu, Lili Cable Television Laboratories Inc. (CableLabs)
  + Ho, Duncan Qualcomm Incorporated
  + Hu, Shengquan MediaTek Inc.
  + Huang, Po-Kai Intel Corporation
  + Jamalabdollahi, Mohsen Cisco Systems, Inc.
  + Kakani, Naveen Qualcomm Incorporated
  + kamath, Manoj Broadcom Corporation
  + Kamel, Mahmoud InterDigital, Inc.
  + Kandala, Srinivas SAMSUNG
  + Khorov, Evgeny IITP RAS
  + Kim, Myeong-Jin SAMSUNG
  + kim, namyeong LG ELECTRONICS
  + Kim, Sang Gook LG ELECTRONICS
  + Kim, Sanghyun WILUS Inc
  + Kim, Youhan Qualcomm Incorporated
  + Kim, Youn-Kwan Sync Techno
  + Kishida, Akira Nippon Telegraph and Telephone Corporation (NTT)
  + Klein, Arik Huawei Technologies Co., Ltd
  + Kneckt, Jarkko Apple, Inc.
  + Ko, Geonjung WILUS Inc.
  + Kwon, Young Hoon NXP Semiconductors
  + Lalam, Massinissa SAGEMCOM BROADBAND SAS
  + Lee, Wookbong SAMSUNG
  + Leng, Shiyang Samsung Research America
  + Levitsky, Ilya IITP RAS
  + Li, Jialing Qualcomm Technologies, Inc.
  + Lin, Zinan InterDigital, Inc.
  + Lopez, Miguel Ericsson AB
  + Lorgeoux, Mikael Canon Research Centre France
  + Lou, Hanqing InterDigital, Inc.
  + Lu, kaiying MediaTek Inc.
  + Lu, Liuming Guangdong OPPO Mobile Telecommunications Corp.,Ltd
  + LU, Yuxin Huawei Technologies Co., Ltd
  + Luo, Chaoming Beijing OPPO telecommunications corp., ltd.
  + Ma, Li MediaTek Inc.
  + Max, Sebastian Ericsson AB
  + McCann, Stephen Huawei Technologies Co., Ltd
  + Mehrnoush, Morteza Facebook
  + Memisoglu, Ebubekir Istanbul Medipol University; Vestel
  + Montemurro, Michael Huawei Technologies Co., Ltd
  + Montreuil, Leo Broadcom Corporation
  + NANDAGOPALAN, SAI SHANKAR Infineon Technologies
  + Nezou, Patrice Canon Research Centre France
  + Ng, Boon Loong Samsung Research America
  + noh, yujin Senscomm
  + Ouchi, Masatomo Canon
  + Ozbakis, Basak VESTEL
  + Palayur, Saju MaxLinear Inc.
  + Park, Eunsung LG ELECTRONICS
  + Park, Minyoung Intel Corporation
  + Patil, Abhishek Qualcomm Incorporated
  + Patwardhan, Gaurav Hewlett Packard Enterprise
  + Petrick, Albert InterDigital, Inc.
  + Pushkarna, Rajat Panasonic Asia Pacific Pte Ltd.
  + Ratnam, Vishnu Samsung Research America
  + Redlich, Oded Huawei Technologies Co., Ltd
  + Rosdahl, Jon Qualcomm Technologies, Inc.
  + Salman, Hanadi Istanbul Medipol University; VESTEL
  + Schelstraete, Sigurd MaxLinear
  + Sethi, Ankit NXP Semiconductors
  + Sevin, Julien Canon Research Centre France
  + Shafin, Rubayet Samsung Research America
  + Shellhammer, Stephen Qualcomm Incorporated
  + Shilo, Shimi Huawei Technologies Co., Ltd
  + Solaija, Muhammad Sohaib Istanbul Medipol University; Vestel
  + Stanley, Dorothy Hewlett Packard Enterprise
  + SUH, JUNG HOON Huawei Technologies Co., Ltd
  + Sun, Bo ZTE Corporation
  + Sun, Li-Hsiang Sony Corporation
  + Sun, Yanjun Qualcomm Incorporated
  + Tanaka, Yusuke Sony Group Corporation
  + Thompson, Tom IEEE STAFF
  + Tian, Bin Qualcomm Incorporated
  + Torab Jahromi, Payam Facebook
  + Tsodik, Genadiy Huawei Technologies Co., Ltd
  + Urabe, Yoshio Panasonic Corporation
  + Varshney, Prabodh Nokia
  + VIGER, Pascal Canon Research Centre France
  + Wang, Lei Futurewei Technologies
  + Wei, Dong NXP Semiconductors
  + Wentink, Menzo Qualcomm Incorporated
  + Wu, Kanke Qualcomm Incorporated
  + Wu, Tianyu Apple, Inc.
  + Wullert, John Perspecta Labs
  + Xin, Yan Huawei Technologies Co., Ltd
  + Yang, Jay Nokia
  + Yang, Steve TS MediaTek Inc.
  + Yano, Kazuto Advanced Telecommunications Research Institute International (ATR)
  + Yee, James MediaTek Inc.
  + yi, yongjiang Futurewei Technologies
  + Yu, Jian Huawei Technologies Co., Ltd
  + Zhang, Yan NXP Semiconductors

1. Announcements:
   * TGbe D1.0 is now available in the members area
     + RTFs will be available in 1-2 weeks
   * CC36 and CC37 were initiated yesterday.
2. Agenda.
   1. Discussion:

C: Please defer 409 from the ageand.

A: Ok.

C: What is the guidelines about?

A: It’s about how to deal with the upcoming meetings.

* 1. Agenda approved with unanimous consent.

1. Guidelines Update: [984r6](https://mentor.ieee.org/802.11/dcn/20/11-20-0984-06-00be-tgbe-teleconference-guidelines.docx)
   1. Alfred goes through Section 8 of the guidelines “Guidelines for WG CC CRs post TGbe1.0”.
   2. Discussion:

C: On point 3. What will be the scope of PDTs?

A: PDTs will focus on bugfixes.

C: At some point documents will be dropped since we cannot keep discussing the same comments.

C: How are you going to keep track of similar comments in CC34 and CC36?

A: The document title will not be tagged, but when we prepare the motion, we list the CIDs with identifiers.

C: I would like to see some time limitation on CR discussions. I would like to avoid the situation where we have to reject 40% of the comments.

C: Point 5. If I resubmit some comments that are not resolved in CC34, if the comments are approved in 34, will those comments be not resolved again for CC36.

A: We instruct the editor that the comment is already resolved.

C: How do we declare success on CC36?

C: We need to check if there is any leftover motions for R1 in the SFD with no text (for D1.0).

1. Technical Submissions**: PDTs**
   1. [299r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0299-06-00be-crs-for-d0-3-eht-sta-features-cids.docx) CRs for D0.3 EHT STA features CIDs Rojan Chitrakar [SP-10’]

Rojan goes through the document with focus on the additional changes compared to previous revision.

Discussion:

C: In RevME, the current discussion is to try to clean up optional and mandatory bullets from clause 4. The reason being that these comments end up being very detailed but the idea with clause 4 is high level description.

SP299r7: Do you agree to accept the changes in 11/21-299r7 identified by the CIDs below?

* + - 1106, 1719, 2234, 2243,2260, 2559, 2560

Discussion: No discussion.

Result: Supported with no objection from the group.

* 1. [455r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0455-05-00be-cr-for-35-2-1-2-preamble-puncturing.docx) CR for 35.2.1.2 preamble puncturing Yanjun Sun [30’]

Yanjun goes through the document. Some live updates in the document.

1. Technical Submissions:
   1. [601r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0601-04-00be-discussion-on-spatial-reuse-issues.pptx) Discussion on Spatial Reuse Issues Zinan Lin [30’]

Summary: The authors discuss how to handle the power normalization under spatial reuse and channel puncturing.

Discussion:  
C: Since the spec is based in terms of 20 MHz, I think we can describe in terms of 20 still and scale accordingly. The TX “spectrum” should be flat anyway. Then we don’t need to consider all these puncturing combination.

Some other discussion.

1. AoB:

* PHY call not cancelled.
* No meeting on Monday due to holiday.

1. Adjourn

# 9th Conf. Call: May 27 (10:00–12:00 ET)

Split PHY and MAC.

* PHY: <https://mentor.ieee.org/802.11/dcn/21/11-21-0819-01-00be-minutes-802-11-be-phy-ad-hoc-may-2021-interim-session.docx>
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-0873-00-00be-minutes-for-tgbe-mac-may-2021-interim-session.docx>

# 10th Conf. Call: June 02 (10:00–12:00 ET)

1. The Chair, Alfred Asterjadhi (Qualcomm), calls the meeting to order at 10:01 ET. The Chair notifies that the agenda is in [785r11](https://mentor.ieee.org/802.11/dcn/21/11-21-0785-11-00be-may-july-tgbe-teleconference-agenda.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
      * Speak up now and respond to this Call for Potentially Essential Patents. **Nobody speaks/writes up**.

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

* 1. The Chair goes through: 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
  2. The Chair goes through: Patent, Participation, Copyright and policy related subclause: Please refer to *Patent And Procedures* in [785r11](https://mentor.ieee.org/802.11/dcn/21/11-21-0785-11-00be-may-july-tgbe-teleconference-agenda.docx).

1. 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:
  + 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.
* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Dennis Sundman ([dennis.sundman@ericsson.com](mailto:dennis.sundman@ericsson.com)) and Alfred Asterjadhi ([aasterja@qti.qualcomm.com](mailto:aasterja@qti.qualcomm.com))
* Please ensure that the following information is listed correctly when joining the call: "[voter status] First Name Last Name (Affiliation)"
  + Carney, William Sony Group Corporation
  + [IMAT not yet available]

1. Announcements:
   1. PHY conf call tomorrow is cancelled.
2. Agenda
   1. Comments:

C: 601 and 673 have straw polls

C: 1903 is r2

* 1. Agenda approved with unanimous consent.

1. Technical Submissions**: PDTs**
   1. [**455r6**](https://mentor.ieee.org/802.11/dcn/21/11-21-0455-06-00be-cr-for-35-2-1-2-preamble-puncturing.docx) **CR for 35.2.1.2 preamble puncturing Yanjun Sun [SP-10’]**

Yanjun goes through the document. Some live updates during the presentation.

SP: Do you agree to accept the changes in XXX identified by the CIDs below?

* + - 1086, 1667, 1936, 2147, 2148, 2180, 3120, 3151, 2541
    - 2 comments from in [21/0218r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0218-00-00be-review-of-p802-11be-d0-3-for-cc34.docx) on subclause 35.2.1.2

Result: Supported with no objection from the group.

1. Technical Submissions:
   1. [**601r5**](https://mentor.ieee.org/802.11/dcn/21/11-21-0601-05-00be-discussion-on-spatial-reuse-issues.pptx) **Discussion on Spatial Reuse Issues Zinan Lin [SP-10’]**

Zinan goes through the presentation and points out problems with the power normalization in PSR (using puncturing), how to fix it and what signaling is required.

**SP1 (ran after presentation of 673)**

Do you agree that the Tx\_PWR\_PSRT setting should consider

* + - Difference between ESR1 and ESR2 and
    - Subchannel puncturing in both PSRT PPDU and PSRR PPDU?

Discussion:

C: I agree with the fundamental argument behind this SP. But I don’t know how this particular formulation will bring us forward?

A: I propose we remove the “PSRR PPDU” part of the SP.

New text:

Do you agree that the Tx\_PWR\_PSRT setting should consider

* + - Difference between ESR1 and ESR2 and
    - Subchannel puncturing in PSRT PPDU?

Result: Y/N/A/No-answer: 38/9/64/68.

**SP2 (ran after presentation 673)**

Do you agree to include the following factors when computing ?

* + - Min(ESR1, ESR2)
    - The number of unpunctured 20MHz subchannels in PSRT PPDU

Discussion:

C: Do you see the spec text including these aspects?

A: I believe this should be in the text.

Result: Y/N/A/No-answer: 8/18/76/75.

**SP3 (ran after presentation 673)**

Do you agree to include the following factors when computing ?

* + - OBSS STA measured power level over the overlapping channels between the STA operating channel and PSRR PPDU
    - The number of unpunctured 20MHz subchannels in the overlapping channels between the OBSS STA operating channel and PSRR PPDU

Result: Y/N/A/No-answer: 7/24/63/81

* 1. [**673r1**](https://mentor.ieee.org/802.11/dcn/21/11-21-0673-01-00be-psr-based-sr-discussion-follow-up.pptx) **PSR-based SR Discussion Follow-up Ross Jian Yu [30’]**

Similar to previous contribution, this highlights some problems with the power normalization in PSR and how to solve it.

Some intense discussion regarding various aspects of the solutions.

Straw polls deferred.

* 1. [**428r1**](https://mentor.ieee.org/802.11/dcn/21/11-21-0428-01-00be-ra-ru-indication-in-trigger-frame.pptx) **RA-RU Indication in Trigger frame Geonjung Ko [SP-10’]**

Straw polls updated after discussion with members.

SP3: Do you agree to define an RA-RU indication to solicit EHT TB PPDUs in R1?

Discussion:  
C: I think it makes sense to move this to R2.

Result: Y/N/A: 31/43/42

SP5: Do you agree that an AP shall not include the User Info field with the AID12 subfield set to 0 or 2045 in the Trigger frame soliciting EHT TB PPDUs in R1?

Discussion: Yes.

Result: Y/N/A/No-answer: 32/34/36/69.

* 1. [400r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0400-01-00be-enhanced-uora.pptx) Enhanced UORA Yanyi Ding [30’]
  2. [1903r1](https://mentor.ieee.org/802.11/dcn/20/11-20-1903-01-00be-random-access-for-11be.pptx) Random Access for 11be Pascal Viger [30’]

1. AoB: None.
2. Adjourn at 11:59 ET.

# 11th Conf. Call: June 03 (10:00–12:00 ET)

Split PHY and MAC.

* PHY: cancelled.
* MAC: <https://mentor.ieee.org/802.11/dcn/21/11-21-0873-00-00be-minutes-for-tgbe-mac-may-2021-interim-session.docx>