IEEE P802.11
Wireless LANs

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| Minutes for TGbe MAC Ad-Hoc teleconferences in May and July 2021 |
| Date: 2021-05-19 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Liwen Chu | NXP |  |  |  |
| Jeongki Kim | Self |  |  |  |
|  |  |  |  |  |

Abstract

This document contains the meeting minutes for the TGbe MAC ad hoc teleconferences held in May 2021 and July 2021.

Revisions:

* Rev0: Added the minutes from the telephone conferences held on May 19.
* Rev1: Added the minutes from the telephone conferences held on May 20 and attendance list of May 19.
* Rev2: Added the minutes from the telephone conferences held on May 24
* Rev3: Added the minutes from the telephone conferences held on May 27
* Rev4: Added the minutes from the telephone conferences held on June 03

**Wednesday 19 May 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (Self)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, Self) calls the meeting to order at 10:02am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
	1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
	* Please record your attendance during the conference call by using the IMAT system:
		1. 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.
	* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu (liwen.chu@nxp.com) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-21/785r4. Several changes are made per the comment. The modified agenda was approved.

**Recorded attendance through Imat and e-mail:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 5/19 | Abushattal, Abdelrahman | Istanbul Medipol university ;Vestel |
| TGbe (MAC) | 5/19 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 5/19 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Banerjea, Raja | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 5/19 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 5/19 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 5/19 | CHAN, YEE | Facebook |
| TGbe (MAC) | 5/19 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/19 | CHUN, JINYOUNG | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Das, Subir | Perspecta Labs Inc |
| TGbe (MAC) | 5/19 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 5/19 | Dong, mingjie | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 5/19 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 5/19 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 5/19 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 5/19 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 5/19 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 5/19 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 5/19 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 5/19 | Hervieu, Lili | Cable Television Laboratories Inc. (CableLabs) |
| TGbe (MAC) | 5/19 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 5/19 | Ibrahim, Ahmed | [NV] Ahmed Ibrahim, Samsung Research America |
| TGbe (MAC) | 5/19 | Inohiza, Hirohiko | Canon |
| TGbe (MAC) | 5/19 | JONES, JEFFRUM | Qorvo |
| TGbe (MAC) | 5/19 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | kamath, Manoj | Broadcom Corporation |
| TGbe (MAC) | 5/19 | Kandala, Srinivas | SAMSUNG |
| TGbe (MAC) | 5/19 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 5/19 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 5/19 | Kim, Youhan | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Klimakov, Andrey | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 5/19 | Koundourakis, Michail | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 5/19 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 5/19 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 5/19 | Leng, Shiyang | Samsung Research America |
| TGbe (MAC) | 5/19 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 5/19 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 5/19 | Li, Yiqing | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Lim, Dong Guk | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 5/19 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 5/19 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 5/19 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 5/19 | LU, Yuxin | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Lumbatis, Kurt | CommScope, Inc. |
| TGbe (MAC) | 5/19 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbe (MAC) | 5/19 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 5/19 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Montreuil, Leo | Broadcom Corporation |
| TGbe (MAC) | 5/19 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 5/19 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 5/19 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 5/19 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 5/19 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 5/19 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 5/19 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 5/19 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 5/19 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/19 | Ratnam, Vishnu | Samsung Research America |
| TGbe (MAC) | 5/19 | Roy, Richard | self |
| TGbe (MAC) | 5/19 | Salman, Hanadi | Istanbul Medipol University; VESTEL |
| TGbe (MAC) | 5/19 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 5/19 | Stanley, Dorothy | Hewlett Packard Enterprise |
| TGbe (MAC) | 5/19 | Sun, Bo | ZTE Corporation |
| TGbe (MAC) | 5/19 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 5/19 | Tsodik, Genadiy | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Verma, Sindhu | Broadcom Corporation |
| TGbe (MAC) | 5/19 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 5/19 | Wang, Huizhao | Quantenna Communications, Inc. |
| TGbe (MAC) | 5/19 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 5/19 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 5/19 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 5/19 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 5/19 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 5/19 | Zhou, Yifan | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/19 | Zuo, Xin | Tencent |
| TGbe (MAC) | 5/19 | Rubayet Shafin | Samsung Research America |

 **Submissions**

1. [80r7](https://mentor.ieee.org/802.11/dcn/21/11-21-0080-07-00be-twt-for-mld.docx) TWT for MLD Ming Gan [SP 10’]

Ming goes through the changes of the new version. Several questions are raised.

Discussion:

C: why same link bitmap in TWT request and response?

A: the TWT negotiation just negotiates the start time etc for simplifing the procedure.

C: link ID bitmap is new. How link ID bitmap is established?

A: link ID bitmap is not new. Examples about how to use it exist in the document.

C: the figure should clarify that the TWT agreements in different links should be indepent and link specific.

A: agree.

C: a clean version should be uploaded.

A: will upload a clean version.

SP:

* Do you agree to incorporate the proposed changes in 11-21/80r8 to the latest TGbe draft?

60Y, 14N, 32A.

1. [462r9](https://mentor.ieee.org/802.11/dcn/21/11-21-0462-09-00be-pdt-mac-restricted-twt-tbds-crs-part1.docx) PDT-MAC-Restricted-TWT-TBDs-CRs-Part1 Chunyu Hu [SP 10’]

Chunyu announced no changes since the last meeting.

SP

**Do you support to incorporate the proposed draft text in this document 11-21/462r9, to the latest TGbe Draft?**

No objection

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1. 514r9 CC34 Comment Resolution for Sync PPDU start time Dmitry Akhmetov [SP]

Dmity goes through the changes of the new version

Discussion:

C: Please highlight the changes.

A: the Tx time difference of 4us instead of slot time is added.

C: P14, bullet and number exist. Editor may be confused.

A: I can remove the dish.

C: this may create higher collision.

C: If you go with 4 us, collision may happen.

A: PIFS recovery already has same issue. This should be fine.

SP

Do you support to incorporate the changes proposed by the following CIDs in 11/0514r10:1439, 1501, 1502, 1509, 1510, 1511, 1512, 1514, 1757, 1772, 1797, 2211, 2142, 2434, 2435, 2718, 2740, 2741, 3141, 3142, 3143, 3145, 3205, 3323, 3399, 1507, 1703, 3398.

53Y, 4N, 41A

1. [696r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0696-00-00be-pdt-mac-spec-text-for-motion-150-sp-372.docx) PDT-MAC-spec-text-for-motion-150\_SP-372 Abhishek Patil [15’]

Discussion:

C: AP of AP MLD will support legacy STAs. The legacy fragmentation should be supported in this case.

C: Why is the baseline feature disallowed?

A: fragmentation is not good in MLD.

C: it is better to provide simulation result.

C: change ”fragmentation” to ”non-dynamic fragmentation”.

A: ok.

SP

**Do you support to incorporate the proposed changes in 11-21/696r2, to the latest TGbe draft?**

65Y, 9N, 31A

1. [228r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0228-01-00be-legacy-addressing-in-mlo.pptx) Legacy Addressing in MLO Rojan Chitrakar [30’

The auther goes through the slides that discussed the MLO addressing issues from a legacy STA’s perspectives.

Discussion:

C: the affiliated AP does the proxy for the legacy STAs. B1 change may have some issue and need to check further.

A: I use B0.

C: It is even worse.

C: I agree that the affiliated AP does the proxy for the legacy STAs. It is not clear that how ARP/PARP works.

A: AP MLD will be the bridge.

The SP was deferred

1. [240r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0240-06-00be-cc34-resolution-for-cids-related-to-tdls-handling.docx) CC34 resolution for CIDs related to TDLS handling Abhishek Patil [30’]

The author goes through the document.

The SP was deferred

The chair asked whether there are any other businesses before adjourning the meeting. No response was received.

The teleconference was adjourned at 12:00pm

**Thursday 20 May 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (Self)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, Self) calls the meeting to order at 10:09am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
	1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
	* Please record your attendance during the conference call by using the IMAT system:
		1. 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.
	* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu (liwen.chu@nxp.com) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-21/785r7. Several changes are made per the comment (author change, removing 11-21/141). The modified agenda was approved.

**Recorded attendance through Imat and e-mail:**

 **Submissions**

1. [481r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0481-04-00be-resolutions-for-cc34-cids-for-channel-switching-quieting.docx) Res. for CC34 CIDs 4 channel switching quieting Laurent Cariou [SP-10’]

Laurent goes through the changes of the new version. Several questions are raised about Quiet Count field. The clarification is to follow baseline. The answer from TG chair about CID list of SP are that the CIDs addressed by the document will be internally recorded.

SP:

* Do you agree with the proposed changes in doc 481r5 corresponding to CIDs:2324 2600 1693 3254 1073 1074 1203 1428 1429 1430 1431 1658 1694 1754 2191 2197 2749 2874 2875 2911 2912 3320

No objection.

1. [340r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0340-06-00be-cr-for-cid-1977.docx) CR for CID 1977 Dibakar Das [SP-10’]

The author goes through the changes of the new version.

C: The relationship between the Capability and the related baseline capabilty can be addressed in the future

A: ok

C: why do you add the new status code?

A: the code is about TSPEC.

C: do you mean AP can suggest TSPEC?

A: yes.

C: question about the support bit in MLD level. The text shows the feature is link level.

A: no, it is in MLD level.

SP was deferred.

1. [552r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0552-05-00be-cr-txop-return-for-triggered-su.docx) CR TXOP Return for Triggered SU Yunbo Li [SP-10’]

The author goes through the changes of the new version.

C: The TXOP early termination for P2P case may have some issue.

A: The termination of P2P has no issue. STA notifies the termination.

C: The termination signaling should be defined in R2. This can make the procedure simple. We can define flexible solution in R2.

A: defining this in R2 may create inter-op issue.

C: CAS control in 11ax has signaling for various functionalities.

C: Do you think to use opposite value of TXOP Sharing Termination?

The author has some audio issues. The chair asks the author to do offline discussion.

1. [240r6](https://mentor.ieee.org/802.11/dcn/21/11-21-0240-06-00be-cc34-resolution-for-cids-related-to-tdls-handling.docx) CC34 resolution for CIDs related to TDLS handling Abhishek Patil [Q&A 10’]

The author makes the summary of TDLS with single link where at least one side is non-AP MLD.

C: generally ok. The issue is in security part. The TPK handshake should include AP MLD when both sides are non-AP MLD. I provide the editor comment in the chat window.

A: Would like to hear other member’s opinion.

C: the value of From/To DS in TDLS Discovery Response frame seems not right.

A: agree and change them from 1 to 0.

C: one solution could be AP MLD handle the situation where non-AP MLD is TDLS peer.

A: the TDLS setup is data frame. With the method proposed in the document, the AP MLD’s processing is simpler.

 There are several people in the queue while there is not time for them to ask questions. The chair asked the author to do offline discussion.

1. [255r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0255-05-00be-cc34-resolution-for-cids-related-to-mbssid.docx) CC34 resolution for CIDs related to MBSSID Abhishek Patil [30’]

The author goes through the changes.

C: the multiple BSSID informaiton will be in RNR. Right?

A: RNR will not include the information of multiple BSSID number. Can do offline discussion about it.

SP:

Do you support the resolutions proposed to the following CIDs in doc 11-21/0255r6 and the changes proposed to address the issues described in discussion items B & C?

1096, 2275, 1095, 2292, 2540, 1819

No objection

1. [498r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0498-01-00be-cr-for-cids-related-to-str-operation.docx) CR for CIDs related to STR Operation Insun Jang [30’]

The author goes through the changes.

C: the STA/AP in STR definition should be affiliated MLD.

A: agree.

C: There is another document related to STR definition. You can harmonize your diefinition with that document.

C: change STR defition to ”STR is not NSTR”.

A: ok will check it.

There are some debate about whether baseline allows a definition to refer to another definition. The conclusion is that the baseline allows it.

There are some debate about ”except”. The chair asked the ppeople to do offline discussion about it.

 The chair asked whether there are any other businesses before adjourning the meeting. No response was received.

The teleconference was adjourned at 12:00pm

**Monday 24 May 2021, 19:00pm – 21:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (Self)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, Self) calls the meeting to order at 10:02am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
	1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
	* Please record your attendance during the conference call by using the IMAT system:
		1. 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.
	* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu (liwen.chu@nxp.com) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-21/785r4. Several changes are made per the comment. The modified agenda was approved.

**Recorded attendance through Imat and e-mail:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 5/24 | Abouelseoud, Mohamed | Sony Corporation |
| TGbe (MAC) | 5/24 | Adachi, Tomoko | TOSHIBA Corporation |
| TGbe (MAC) | 5/24 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 5/24 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/24 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 5/24 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 5/24 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 5/24 | CHAN, YEE | Facebook |
| TGbe (MAC) | 5/24 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/24 | Chu, Liwen | NXP Semiconductors |
| TGbe (MAC) | 5/24 | CHUN, JINYOUNG | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 5/24 | Das, Subir | Perspecta Labs Inc |
| TGbe (MAC) | 5/24 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 5/24 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 5/24 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 5/24 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 5/24 | Hamilton, Mark | Ruckus/CommScope |
| TGbe (MAC) | 5/24 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 5/24 | Ibrahim, Ahmed | [NV] Ahmed Ibrahim, Samsung Research America |
| TGbe (MAC) | 5/24 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | Jung, hyojin | Hyundai Motor Company |
| TGbe (MAC) | 5/24 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 5/24 | Kim, Jeongki | Self |
| TGbe (MAC) | 5/24 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | Kim, Youhan | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 5/24 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 5/24 | Leng, Shiyang | Samsung Research America |
| TGbe (MAC) | 5/24 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 5/24 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 5/24 | Lim, Dong Guk | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | lim, taesung | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 5/24 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 5/24 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 5/24 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbe (MAC) | 5/24 | Mehrnoush, Morteza | Facebook |
| TGbe (MAC) | 5/24 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | NANDAGOPALAN, SAI SHANKAR | Infineon Technologies |
| TGbe (MAC) | 5/24 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 5/24 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 5/24 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 5/24 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 5/24 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 5/24 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 5/24 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/24 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Roder, Patricia | IEEE STAFF |
| TGbe (MAC) | 5/24 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 5/24 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 5/24 | Sun, Bo | ZTE Corporation |
| TGbe (MAC) | 5/24 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 5/24 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 5/24 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 5/24 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 5/24 | Wang, Hao | Tencent |
| TGbe (MAC) | 5/24 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 5/24 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 5/24 | Yang, Jay | Nokia |
| TGbe (MAC) | 5/24 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 5/24 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 5/24 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 5/24 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

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**Submissions**

1. [774r4](https://mentor.ieee.org/802.11/dcn/21/11-21-0774-05-00be-cc34-resolution-for-cids-related-to-emlmr-part-2.docx) cc34 resolution for CIDs related to EMLMR - Part 2 Young H. Kwon [SP-10’]

The auther goes through the changes of the new version.

C: I am not sure that VHT/HE Nss MCS support can be acquired per your rules.

A: Do you have the cases that the rules don’t work?

C: eack link can have different capabilities.

A: the group agreed that this is MLD level capability.

C: the Tx Nss MCS are removed.

A: The Tx is still included.

SP was deferred.

1. [340r8](https://mentor.ieee.org/802.11/dcn/21/11-21-0340-08-00be-cr-for-cid-1977.docx) CR for CID 1977 Dibakar Das [SP-10’]

The author goes through the changes of the new version.

C: traffic information in SCS should be used for AP and STA also.

A: the group has no agreement that EHT AP not affiliated with MLD, STA no affiliated with MLD exists.

C: AP’s behavior is up to the implementation in one part, in another part the reserving resource is mentioned. They should be in lined.

A: the text is from baseline. To removing the inconsistency, the resource reservation will be removed.

C: the defintion of Minimum Service Interval and the Maximum Service Interval fields in TSPEC should be defined in TSPEC subclause.

A: can remove it.

SP:

Do you support the changes in doc 11-21/0340r10 for resolving the CID1977?

30Y, 20N, 33A

1. [481r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0481-05-00be-resolutions-for-cc34-cids-for-channel-switching-quieting.docx) Reso. for CC34 CIDs for channel switching quieting Laurent Cariou [SP-5’]

The author goes through the changes of the new version.

SP:

Do you agree with the proposed changes in doc 481r5 corresponding to CIDs:2132 2166

No objection.

1. [390r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0390-01-00be-cr-for-35-3-5.docx) CR for 35.3.5 Po-Kai Huang [30’]

The author goes through the changes of the new version.

C: the location of Status should be defined.

A: it is defined in another contribution (in the STA Profile field).

SP:

Do you support the changes provided in 11-21-390r2 for the following CIDs?1053, 1784, 1785, 3252, 1055, 2251, 2316, 2317, 3243, 1443, 1677, 1711, 1812, 2477, 2088, 2377, 2424, 3251, 3025, 1783, 2127, 2899, 2475, 2593, 1805

 No objection

1. [1897r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1897-04-00be-obss-edca-parameter-sets-for-rta.pptx) OBSS EDCA Parameter Sets for RTA Evgeny Khorov [SP-10’]

The author goes through the changes of the new version.

Discussion for SP1

C: is SP1 for R1/R2 or just collect the information?

A: this can be for either R1 or R2.

C: similar to the previous comment.

C: It may better to do separate SP for different parameters, and run SP for parameters within one BSS

SP was deferred.

1. [1938r5](https://mentor.ieee.org/802.11/dcn/20/11-20-1938-05-00be-tb-su-ppdu-and-tb-p2p-ppdu-consideration.pptx) TB SU PPDU and TB P2P PPDU Consideration Jay Yang [SP-10’]

The author goes through the changes of the new version.

Discussion of SP1

C: some part is not clear. I assume the SP want to apply to multiple portions of a TXOP.

A: can add single.

C: do you use a new frame?

A: it is not a new frame (will reuse TXOP sharing MU-RTS).

C: What is the meaning of ”multiple peer-to-peer links”?

A: it means for multiple users.

C: it is quiet complicated.

Updated SP 1 per the discussion:

**Do you support that 11be defines a mechanism for an AP to transmit a frame(TXOP sharing MU-RTS) that allocates a single portion of its obtained TXOP for multiple users in R2?**

**28Y, 24N, 29A**

1. [395r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0395-01-00be-tspec-request.pptx) TSPEC Request Peshal Nayak [30’]

The author goes through the presentation.

Discussion:

C: what does a STA do if the STA receives the request?

A: STA can do some decision for power save, TWT negotiation etc.

C: similar comment that the AP can decide the TWT schedule already.

A: burst type, traffic type will be useful for the STAs. STAs can do further optimization with these information.

C: Are you saying that AP know the traffic pattern but the STAs don’t know the traffic pattern?

A: yes, e.g. DL traffic pattern.

C: how does the AP know the downlink traffic pattern?

A: this is general concept.

C: AP is in MAC, PHY level. The traffic pattern should be from peer server.

A: the information could be from MAC level.

SP:

* **Do you agree to add the following to 11be R1:**
	+ The non-AP STA or non-AP MLD may send a TSPEC request IE to the AP or AP MLD to request for the DL traffic characteristic of a traffic flow
	+ Upon receiving the TSPEC request IE, the AP or AP MLD can send the requested information using the TSPEC element(s) or its variant (e.g. TSPEC-lite) to the non-AP STA or non-AP MLD

10Y, 43N, 29A

1. . [480r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0480-01-00be-resolutions-for-cc34-cids-for-more-data-usage.docx) Resolutions for CC34 CIDs for More Data usage Laurent Cariou [30’]

The author goes through the presentation.

The SP is derferred

The chair asked whether there are any other businesses before adjourning the meeting. No response was received.

The teleconference was adjourned at 20:59pm

**Thursday 27 May 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (Self)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, Self) calls the meeting to order at 10:09am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
	1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
	* Please record your attendance during the conference call by using the IMAT system:
		1. 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.
	* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu (liwen.chu@nxp.com) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-21/785r9. Several changes are made per the comment (author change, removing 11-21/141). The modified agenda was approved.

**Recorded attendance through Imat and e-mail:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 5/27 | Abushattal, Abdelrahman | Istanbul Medipol university ;Vestel |
| TGbe (MAC) | 5/27 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 5/27 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 5/27 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 5/27 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 5/27 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/27 | Choi, Jinsoo | LG ELECTRONICS |
| TGbe (MAC) | 5/27 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 5/27 | Das, Subir | Perspecta Labs Inc |
| TGbe (MAC) | 5/27 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 5/27 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 5/27 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 5/27 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 5/27 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 5/27 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 5/27 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 5/27 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 5/27 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 5/27 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 5/27 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | Kim, Jeongki | Self |
| TGbe (MAC) | 5/27 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 5/27 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 5/27 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 5/27 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/27 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 5/27 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 5/27 | Lee, Hong Won | LG ELECTRONICS |
| TGbe (MAC) | 5/27 | Leng, Shiyang | Samsung Research America |
| TGbe (MAC) | 5/27 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 5/27 | Liu, Der-Zheng | Realtek Semiconductor Corp. |
| TGbe (MAC) | 5/27 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 5/27 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 5/27 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 5/27 | LU, Yuxin | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/27 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbe (MAC) | 5/27 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 5/27 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/27 | Mehrnoush, Morteza | Facebook |
| TGbe (MAC) | 5/27 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 5/27 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | NANDAGOPALAN, SAI SHANKAR | Infineon Technologies |
| TGbe (MAC) | 5/27 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 5/27 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 5/27 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 5/27 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 5/27 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 5/27 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | Ratnam, Vishnu | Samsung Research America |
| TGbe (MAC) | 5/27 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 5/27 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 5/27 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 5/27 | Tsujimaru, Yuki | Canon Inc. |
| TGbe (MAC) | 5/27 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 5/27 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 5/27 | Wentink, Menzo | Qualcomm Incorporated |
| TGbe (MAC) | 5/27 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 5/27 | Yang, Jay | Nokia |
| TGbe (MAC) | 5/27 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 5/27 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

 **Submissions**

1. [480r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0480-01-00be-resolutions-for-cc34-cids-for-more-data-usage.docx) Resolutions for CC34 CIDs for More Data usage Laurent Cariou [Q&A/SP-10’]

Laurent annoucnes no change.

C: P4, 9.2.4.8, green text, DL should be added.

A: ok

C: HE STA is mentioned in 11.2,3.7.

A: it can be deleted.

C: QoS + CF Ack is not needed.

A: Agreed

SP deferred

1. [499r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-00-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx) CR 4 CIDs related to ML IE Usage for Multi-link Setup Insun Jang [30’]

The author goes through the changes.

C: comment about ”removing ön the link that is working on.”: It should be removed. More clarification should be added, e.g. desires to use after association.

A: want to listen the other opinion.

C: EML Capabilitiy should be optional.

C: main thing should be deciding one of option 1 and option 2 to go ahead.

A: agree.

SP deferred

1. [526r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0526-00-00be-resolution-for-cid-2469.docx) Resolution for CID 2469 Gaurang Naik [30’]

The author goes through the changes.

C: you just do name change, right?

A: yes. Some other corresponding text change are made also.

C: stall two octet?

A: it is 4 bits.

C: don’t prefer to change the name. AP cooordinaiton may need AP ID. Already discuss this for two years by using Link ID.

C: link ID is used for many places, TID to link mapping, identifying STAs of non-AP MLD, TDLS between two non-AP MLDs etc.

SP1:

Do you agree to replace the field Link ID with AP ID in the 11be draft?

22Y, 52N, 18A

1. [557r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0557-00-00be-cc34-resolution-for-cids-related-to-emlmr-part-1.docx) Res. for CIDs related to EMLMR – Part 1 Young H. Kwon [20’]

The author goes through the changes.

C: frame exchange may not be clear, e.g. TXOP includes multiple frame exchanges.

A: ok.

C: what is enabled state?

A: after association, eMLMR can be used.

C: it may be better to use explicit indication.

A: will consider it.

C: don’t want explicit indication since it complicates the protocol.

C: there is no power save rules for eMLMR in 35.3.6.

A: no new rules are needed.

C: eMLMR applies to all links?

A: this needs further discussion.

SP deferred

1. [493r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0493-00-00be-cr-for-cid-2849.docx) CR for CID 2849 Yiqing Li [10’]

The author goes through the changes.

SP:

Do you support the changes proposed in doc 11-21/0493r1 for CID 2849?

No objection

1. [386r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0386-01-00be-cc34-resolution-for-cid-1038.docx) CC34 resolution for CID 1038 Abhishek Patil [30’]

The author goes through the changes.

C: existing element carries such information. Those IEs can be used.

A: investigating it. The overhead of using those IEs is high.

C: Agree with the previous comment. Also the other links have different antenna characteristics. The other links’ path loss is difficult to estimate.

A: There are methods to do path loss estimation of other links.

SP deferred

The chair asked whether there are any other businesses before adjourning the meeting. No response was received.

The teleconference was adjourned at 11:59am

**Thursday 24 May 2021, 19:00pm – 21:00pm ET (TGbe MAC ad hoc conference call)**

Ad-hoc Chair, Liwen Chu, calls meeting to order at 10:02AM ET.

Secretary for today’s call is Alfred.

Chair goes over patent policy and calls for Potentially essential patents.

Nobody spoke up.

Chair goes over other guidelines.

Chair goes over the IEEE SA Copyright Policy.

Chair asks if there is any requests for modification to proposed agenda

Laurent Cariou asks to defer 480r1.

Insun asks to add two deferred SPs, 498r3 and 499r4.

Agenda is approved (based on 785R12 with the additions above.). Agenda with these changes will appear in 785r13.

**Dibakar goes over 340r11**

Author provides a brief overview of the changes with respect to the previous version, which includes an update to the definition of the service period, and moved the capability indication from ML element to the EHT Capabilities element.

SP: Do you support the changes provided in 11-21/340r11 for CID 1977?

No discussion.

**Result: No objection.**

**Yunbo goes over 552r6**

Author provides a brief overview of the changes with respect to the previous version, and discusses the comments that he has received.

Do you support the changes provided in 11-21/552r6?

Discussion: Some questions for the p2p case, concerns on reinventing existing mechanisms, and define this procedure for R2.

**Result: 29Y, 27N, 34A.**

**Insun goes over 498r3**

Author provides an update of the doc. During the discussion members focused on the use of “may” in accessing the WM and suggested “shall” and also questioned what reasons are to be listed as exceptions. Some edits on the screen occurred based on the discussions and the feedback. It will be r4.

SP #1: Do you support the changes in 11-21/498r4 identified by the following CIDs?

- 1083, 1175, 1215, 1433, 1660, 1698, 1699, 1794, 1821, 2116, 2138, 2553, 2748, 3409

Discussion: No discussion.

**Result: No objection.**

**Insun goes over 499r4**

Author provides an overview of the changes that occurred with respect to the previous time the document was presented. Essentially removed option 1 from the doc since most members preferred option 2. Other changes were presented accordingly providing a background for each of these changes.

SP is deferred since more members were on the queue for questions.

**Jason goes over 538r3**

Author goes over the document. Some discussions on the use of EHT non-AP STA vs non-AP EHT STA. Some changes are made on the fly. Member mentions that will review the document in detail offline and provide feedback in a few days. Author will wait for the feedback. SP can be ran next time.

**Jason goes over 544r0**

Author goes over the document. Minor discussions inline with the proposed changes.

SP #1: Do you support the changes in 11-21/544r0 identified by the following CIDs?

- 1809 and 2368

Discussion: no discussion.

**Result: No objection.**

**Po-Kai goes over 423r1**

**Some discussion about the applicability of mesh to MLD. And unrelated discussions on the new editorial style-guide compliance of the changes.**

SP1: Do you support the changes provided in 11-21-0423r1 for the following CIDs?

2277, 2278, 3241, 2078, 1665, 2080, 2077, 2079, 2076, 2081

Result: 25Y, 9N, 36A

SP2: Do you support the changes provided in 11-21-0423r1 for the following CIDs?

2277, 2278, 3241, 2078, 2080, 2077, 2079, 2076, 2081

Discussion: What changed? Removed CID 1665, and author gives an overview of the changes that would not be applicable.

**Result: No objection.**

Members asks if 510 is moved from the agenda. Chair mentions that he missed it. Asks members if there is any objection to go over 510r4. No objections were heard.

**John goes over 510r4**

Author goes over the comments and resulting proposed changes.

Comments mentioning of the reason as to why the scope is limited to MLD only, i.e., why not an EHT STA itself. Author mentions that there is a motion that mandates MLD to EHT devices.

SP is deferred. Will follow up offline to see if we need to solve these EHT STA vs MLD issues.

**Matt goes over 530r4**

Author provides an overview of the comments and the changes. We ran out of time for questions. Will resume next time.

Meeting is adjourned at 12:00 ET.