IEEE P802.11  
Wireless LANs

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| Minutes for TGbe MAC Ad-Hoc teleconferences in November 2021 to January 2022 | | | | |
| Date: 2021-11-17 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Jeongki Kim | Ofinno |  |  | [jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com) |
| Liwen Chu | NXP |  |  | [liwen.chu@nxp.com](mailto:liwen.chu@nxp.com) |
|  |  |  |  |  |

Abstract

This document contains the meeting minutes for the TGbe MAC ad hoc teleconferences in November 2021 to January 2022.

Revisions:

* Rev0: Added the minute from the teleconference held on November 17.
* Rev1: Added the minute from the teleconference held on November 18.
* Rev2: Added the minute from the teleconference held on November 22 and some updates.
* Rev3: Added the minute from the teleconference held on November 29.
* Rev4: Added the minute from the teleconference held on December 2.
* Rev5: Added the minute from the teleconference held on December 6.
* Rev6: Added the minute from the teleconference held on December 8.
* Rev7: Added the minute from the teleconference held on December 9.
* Rev8: Added the minute from the teleconference held on December 13.
* Rev9: Added the minute from the teleconference held on December 16.

## Wednsday, November 17, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r2. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 11/17 | Ahmad, Tufail | Koc University, vestel |
| TGbe (MAC) | 11/17 | Ajami, Abdel Karim | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 11/17 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/17 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 11/17 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 11/17 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 11/17 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 11/17 | Chemrov, Kirill | IITP RAS |
| TGbe (MAC) | 11/17 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/17 | Choi, Jinsoo | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Chung, Chulho | SAMSUNG |
| TGbe (MAC) | 11/17 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 11/17 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 11/17 | felton, mickey | Genesis |
| TGbe (MAC) | 11/17 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 11/17 | Ghosh, Chittabrata | Facebook, Inc. |
| TGbe (MAC) | 11/17 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 11/17 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbe (MAC) | 11/17 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 11/17 | Ibrahim, Ahmed | Samsung Research America |
| TGbe (MAC) | 11/17 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Kim, Jeongki | Ofinno |
| TGbe (MAC) | 11/17 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 11/17 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 11/17 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/17 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 11/17 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 11/17 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 11/17 | Lim, Dong Guk | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 11/17 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 11/17 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbe (MAC) | 11/17 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/17 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 11/17 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/17 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 11/17 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 11/17 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 11/17 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 11/17 | Ozbakis, Basak | VESTEL |
| TGbe (MAC) | 11/17 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 11/17 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 11/17 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/17 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 11/17 | Ryu, Kiseon | Ofinno |
| TGbe (MAC) | 11/17 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 11/17 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 11/17 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 11/17 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 11/17 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 11/17 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 11/17 | Wentink, Menzo | Qualcomm Incorporated |
| TGbe (MAC) | 11/17 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 11/17 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 11/17 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 11/17 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |

**Submissions**

1. [1685r5](https://mentor.ieee.org/802.11/dcn/21/11-21-1685-05-00be-cc36-cr-for-aar.docx) CC36 CR for AAR Ming Gan [15C SP-10’]

Discussion:

There were discussions on EMLSR/EMLMR links.

C: Regarding the AP shall schedule, can you consider some other conditions (e.g., TBTT, )?

C: Note has shall requirement. You need to provide the reference. You don’t need to have shall text in the note.

A: Ok

C: I need to more think about the EMLSR?EMLMR. Could you defer it?

A: Ok.

C: Do we need to have shall requirement of the AP operation? The AP may not schedule due to some reason (e.g., busy, or not available links,).

A: At the begining, AP does not have a capability for that operation. So, I changed it to shall based on other comments.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1685r6 for the following CIDs?-** 4239 4240 4484 4729 4731 4732 5318 5707 6322 6926 6991 7575 8218 8219

Y/N/A: 33/19/27

1. [1562r](https://mentor.ieee.org/802.11/dcn/21/11-21-1562-05-00be-cc36-resolution-for-cids-for-35-3-9-2.docx)5 CC36 resolution for CIDs for 35.3.9.2 Laurent Cariou [31C 20’]

Discussion:

The following texts are added on 2295 during the discussion.

”Between the target swtich time and the time at which the AP will start beaconing in the target operating class/channel, the Neighbor AP TBTT Offset field for the corresponding AP in the Reduced Neighbor Report element shall be set to 255.

C: For the last sentence, the time is not accurate time?

A: You mean tentative time?

C: estimated time is used in the baseline.

C: 5038, what does the condition mean?

There were long discussions on resolution on 5038.

C: You can remove the note on 5038. That’s legacy operation. We don’t need it here.

A: I can defer it.

C: In another note, Quiet element and Quiet Channel element could be inherited. Please remove it.

A: Ok.

C: There is no impact of beacon reception. You can remove the new added wrapper element.

A: We need to provide the consistent information. The element just carries the bandwidth information.

C: We don’t need to carry complete information in the beacon. Why do we need the information? It has a lot of overhead.

5308 is defered by discussion.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1562r6 for the following CIDs?**4385 4462 4463 4464 5035 5036 5037 5062 5218 5258 5690 5691 5838 5925 5989 6099 6209 6298 6299 6491 6492 6671 7373 7374 7443 7820 7854

No objection.

1. [1704r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1704-01-00be-cc36-resolution-for-cids-related-to-nsep-3-1-3-4-c-3.docx) Res. 4 CIDs related to NSEP\_3.1\_3.4\_C-3 Subir Das [12C 15’]

Discussion:

C: I think the comment is reasonable. National is too limited.

A: Ok, It’s open. It could be international or global.

C: You can remove the prefix on it.

A: I can defer it.

C: Resolution of 4172, you can change the specific subclause to the draft standard.

A: Ok.

C: could you defer 5284?

A: I already do it.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1704r2 for the following CIDs?-**  6155, 4091, 7675, 4804, 7483, 6156, 5652, 6117, 4172, 6119, 7526

No objection

1. [1714r](https://mentor.ieee.org/802.11/dcn/21/11-21-1714-01-00be-cc36-cr-for-traffic-indication-in-multiple-bssid-set.docx')2 CR 4 Traffic Ind. in Multiple BSSID Set Ming Gan [1C 15’]

Discussion:

C: you can change in the first paragraph, like AP does not corresponding the transmitted BSSID.

A: I think the meaning is same.

C: performed multi-link setup?

C: how about for an associated non-AP MLD instead of it?

C: last paragraph: for non-AP MLDs associated with any AP MLD that has an affiliated AP in the same multiple BSSID set as the AP.

C: by following.

C: AP MLD that corresponds to...? or AP?

A: AP.

C: where the AP corresponds..

A: Ok

C: using the partial virtual bitmap,

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1714r3 for the following CID?**

**6254**

No objection

1. [1611r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1611-00-00be-tid-to-link-mapping-enhancements.pptx) TID Mapping Enhancements Pooya Monajemi [Tech. 30’]

Discussion:

C: In the sequence 0 , 1, 2, AP can choose all sequences . AP can do all possbile combination.

A: Yes

C: AP need to control uplink. Why should the AP enforce the ul operation? I understand DL cases. Loadbalancing case?

C: slide 9, how does the client benefit ?

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

## Thursday, November 18, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r3. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 11/18 | AbidRabbu, Shaima' | Istanbul Medipol University; Vestel |
| TGbe (MAC) | 11/18 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 11/18 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 11/18 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 11/18 | Barr, David | MaxLinear |
| TGbe (MAC) | 11/18 | Batra, Anuj | Apple, Inc. |
| TGbe (MAC) | 11/18 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 11/18 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 11/18 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/18 | Chung, Chulho | SAMSUNG |
| TGbe (MAC) | 11/18 | Ciochina, Dana | Sony Corporation |
| TGbe (MAC) | 11/18 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 11/18 | Dash, Debashis | Apple, Inc. |
| TGbe (MAC) | 11/18 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 11/18 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 11/18 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 11/18 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 11/18 | Gupta, Binita | Meta Platforms, Inc. |
| TGbe (MAC) | 11/18 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 11/18 | Han, Jonghun | SAMSUNG |
| TGbe (MAC) | 11/18 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 11/18 | Hervieu, Lili | Cable Television Laboratories Inc. (CableLabs) |
| TGbe (MAC) | 11/18 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 11/18 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbe (MAC) | 11/18 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 11/18 | Kain, Carl | USDoT; Noblis, Inc. |
| TGbe (MAC) | 11/18 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 11/18 | Kim, Jeongki | Ofinno |
| TGbe (MAC) | 11/18 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 11/18 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 11/18 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 11/18 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 11/18 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/18 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 11/18 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 11/18 | Lanante, Leonardo | Ofinno |
| TGbe (MAC) | 11/18 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 11/18 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 11/18 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 11/18 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 11/18 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 11/18 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/18 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/18 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 11/18 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 11/18 | Naribole, Sharan | Apple, Inc. |
| TGbe (MAC) | 11/18 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 11/18 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 11/18 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 11/18 | Orlando, Christian | IEEE STAFF |
| TGbe (MAC) | 11/18 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 11/18 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 11/18 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 11/18 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 11/18 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/18 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 11/18 | Salman, Hanadi | Istanbul Medipol University; VESTEL |
| TGbe (MAC) | 11/18 | Schiessl, Sebastian | Apple, Inc. |
| TGbe (MAC) | 11/18 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 11/18 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 11/18 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 11/18 | Taori, Rakesh | Infineon Technologies |
| TGbe (MAC) | 11/18 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 11/18 | Tsujimaru, Yuki | Canon Inc. |
| TGbe (MAC) | 11/18 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 11/18 | Verma, Lochan | Apple, Inc. |
| TGbe (MAC) | 11/18 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 11/18 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 11/18 | Wu, Tianyu | Apple, Inc. |
| TGbe (MAC) | 11/18 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 11/18 | Yang, Jay | Nokia |
| TGbe (MAC) | 11/18 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 11/18 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 11/18 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |
| TGbe (MAC) | 11/18 | Yong, Su Khiong | Apple, Inc. |
| TGbe (MAC) | 11/18 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

**Submissions**

1. [1176r](https://mentor.ieee.org/802.11/dcn/21/11-21-1176-07-00be-cc36-resolution-for-cids-related-to-ml-advertisement-part-2.docx)8 Res. 4 CIDs related to ML advertisement-Part 2 Abhishek Patil [4C SP-10’]

Discussion:

C: Multi-level inheritance, we haven’t decided the details of it. Could we settle it down firstly?

C: Note 2, non-inheritance elements are in the note 2. If you don’t address the problem of non-inheritance elements,..., we should wait the conclusion.

A: Inheritance and non-inheritance elements apply here. I can move the note 2 to cover inheritance and non-inheritance elements.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1176r9 for the following CID?- 7812**

No objection.

1. [1330r4](https://mentor.ieee.org/802.11/dcn/21/11-21-1330-04-00be-cc36-for-sn-indication.docx) CC36 for SN indication Jay Yang [1C SP-10’]

Discussion:

C: If there is no PS STA, the AP will deliver the group addressed frame anytime.

A: Yes. I already described it in the document. I just mentioned the update.

C: This use cases, IPTV, would be covered by TGbc instead of Tgbe.

A: 11be device may support TGbc. If it does not support it, ...

C: It might be very corner case. It’s not common case.

A: It will be useful for a single radio MLD. 11be don’t have the missing issue.

C: Each different link may have different SN.

C: In D1.3, a single radio MLD does not switch link if there is on-going traffic.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1330r4 for the following CIDs?5380 6648**

Y/N/A: 5/29/38

1. [1657r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1657-02-00be-tgbe-cc36-misc-comment-resolutions.docx) TGbe CC36 Misc Comment Resolutions M. Montemurro [5C 2SP-15’]

Discussion:

C: You remove the validation part? KDEs?

A: Yes

C: If you delete the note, you may have another note for the description. It’s not friendly.

C: If there is no consensus, do we reject two comments? I want to keep two notes in my mind.

A:  if the straw poll does not show support for the resolution, we should be rejecting 6184 and 5191 with a rejection reason of the group could not come to consensus.

**SP1: Do you agree to accept the resolution in IEEE 802.11-21/1657r3 for the following CIDs?6050, 6052, 6934**

**No objection.**

**SP2: Do you agree to accept the resolution in IEEE 802.11-21/1657r3 for the following CIDs?6184, 5191**

22/22/29

1. [1710r](https://mentor.ieee.org/802.11/dcn/21/11-21-1710-02-00be-cc36-resolution-for-cids-for-9-4-2.docx)3 CC36 resolution for CIDs for 9.4.2 Laurent Cariou [29C 35’]

Discussion:

C: We updated the texts of 35.3.10. Consistent with the update?

A: Yes.

C: BSS transition, add new subclause.

A: It’s part 2. Let’s go the part 1 firstly.

**SP1: Do you agree to accept the resolution in IEEE 802.11-21/1710r3 for the following CIDs?7437 7438 5594 6229 5321 4259 6010 4258 6231 7806 6232 6970 7700 8275 5122 8163 8276 5123 8164 8277 4099 6233 4260 5368**

No objection.

C: new subclause BSS transition. For recommended Aps, You suggest Link ID Info in ML element.

C: Link ID info is in Per-STA profile. You move it to common. How about the STA Info field?

A: I can double check.

C: Neighbor report does not carry the Per-STA profile in ML element.

A: Ok. We can have more discussion.

1. 1756r3, Jarkko.

Discussion:

C: Why do you add these in RNR?

A: You can improve scanning in 6GHz.

C: TIM broadcasting, the field in the ML element.

C: Group frames in the spec? You can just say group addressed frames.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:00 ET**

## Monday, November 22, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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.
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5. The Chair asked whether there is comment about agenda in 11-21/1775r5. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 11/22 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/22 | Ajami, Abdel Karim | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 11/22 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 11/22 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 11/22 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 11/22 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/22 | Das, Subir | Peraton Labs |
| TGbe (MAC) | 11/22 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 11/22 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 11/22 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 11/22 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 11/22 | Gupta, Binita | Meta Platforms, Inc. |
| TGbe (MAC) | 11/22 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 11/22 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 11/22 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbe (MAC) | 11/22 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 11/22 | Jung, hyojin | Hyundai Motor Company |
| TGbe (MAC) | 11/22 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 11/22 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 11/22 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 11/22 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 11/22 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/22 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 11/22 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 11/22 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 11/22 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbe (MAC) | 11/22 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 11/22 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 11/22 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 11/22 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 11/22 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 11/22 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 11/22 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Ratnam, Vishnu | Samsung Research America |
| TGbe (MAC) | 11/22 | Ryu, Kiseon | Ofinno |
| TGbe (MAC) | 11/22 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 11/22 | Strauch, Paul | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 11/22 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 11/22 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 11/22 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 11/22 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 11/22 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 11/22 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |
| TGbe (MAC) | 11/22 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

**Submissions**

1. [1756r](https://mentor.ieee.org/802.11/dcn/21/11-21-1756-03-00be-cr-for-beacon-type-information.docx/)6 CR for Beacon Type Information Jarkko Kneckt [10C SP-10’]

Discussion:

C: Page 6, equation, ML probe request/response happens in link1, how can you know the pathloss of link 2?

A: You can estimate that of the link 2.

C: Delta pathloss is fixed or variable?

C: This is for STA to estimate whether the AP MLD is good or not based on the equation.

C: Equation may be wrong if the STA is mobile. Delta pathloss is not fixed.

C: I’m not sure whether the Beacon type is useful for the pre-association or post association.

A: It could be good for both cases. Multi-link setup, post association.

C: This can happen in a single link STA. Why do you mention only in multi-link?

C: You removed the duplicated ppdu for group frame. You can also remove the non-HT dup ppdu for beacon?

A:

**SP2: Do you agree to accept the resolution in IEEE 802.11-21/1756r6 for the following CIDs?**

#5324, #5325

C: Which part is covered in the document?

A: Only texts related to Beacon Type. Clearly indicated with CIDs in the doc. We can run SP

Y/N/A: 17/21/28

1. [1452r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1452-01-00be-cr-for-probe-request-variant-mle.docx) CR-for-Probe-Request-Variant-MLE Jason Y. Guo [1C 15’]

Discussion:

C: I support the intention. ML probe does not carry the information of the current AP. Which information is carried among parameters? All mandatory or optional? I think the action frame is better than the normal probe response.

C: Similar to previous. how can the probe response body be comprised?

C: I have a similar contribution.

A: Why is this related to ML fragmentation?

C: We can define new action frame for ML.

C: I also think that new action frame is good candidate for this.

C: In AP operation, if do not retrieve the information, the value should be 0. Not 1.

1. [1718r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1718-01-00be-cc36-cr-for-rtwt-sp-protection.docx) CC36 CR for rTWT SP Protection Patrice NEZOU [4C 15’]

Discussion:

C: Second part, you restrict the rTWT to Triggered based TWT. Too restricted.

C: First part, there were long discussion about why the quiet interval should not protect the whole rTWT SP.

A: although Trigger field is set to 1, The STA is not forbided EDCA operation.

C: the TXOP limit is only for AP self?

C: This is unfair with legacy STA and EHT STA that does not support rTWT.

C: AP shall set the field to 1. Why?

A: Not always. Not forfiding the EDCA.

C: AP can transmit a Trigger frame to protect it.

C: If the STA may contends the channel again at the last sentence, the medium may loss by AP.

C: MaxProbisionTime seems like TXOPlimit. ProvisionPeriod and rTWT SP are beyond TXOPlimit.

1. [1681r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1681-00-00be-resolutions-for-cids-related-to-annex-b.docx) Resolutions for CIDs related to Annex B Rajat Pushkarna [6C 25’]

Discussion:

C: Soft AP, you can change to mobile.

A: Ok

C: EMLSR or EMLMR signaling is mandatory.

C: Do we have to have CFEHT160?

A: Ok, 6GHz?

C: Yes

C: And non-STR operation?

C: Do you want to run SP now?

A: You can review it more.

1. [395r5](https://mentor.ieee.org/802.11/dcn/21/11-21-0395-05-00be-tspec-request.pptx) TSPEC Request Rubayet Shafin [SP-10’]

Discussion:

C: what is the motivation of SP1? AP can do rTWT.

A: AP can recommend the TWT parameters. Another is STA can recommend.

C: SP2, there is not TSPEC for it.

C: how does AP know the DL traffic pattern to tell the STA?

A: two type. One is server. The other is packet arrival measurement. I mean the second case.

* **SP1: Do you agree that a non-AP STA or non-AP MLD can benefit from information related to the DL traffic pattern (e.g., DL timing information) when specifying a suggested/demanded set of TWT parameters in TWT Setup:**

Y/N/A: 8/43/18

* **SP2: Do you agree that the capability to request the TSPEC element(s) or its variant from the AP or AP MLD can be beneficial for the non-AP STA or non-AP MLD?**

Y/N/A: 7/32/16

* **SP3: Do you agree to add the following to 11be R2:**
  + 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 to the non-AP STA or non-AP MLD

Y/N/A: 6/41/13

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**

## Monday, November 29, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r6. Some modifications. The agenda was approved.

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

**Submissions**

1. [1699r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1699-00-00be-cc36-cr-for-r-twt-rbo-before-service-period.docx) CR for r-TWT RBO before service period Abdel K. Ajami [3C 15’]

Discussion:

C: Your intention is shall operation than should? If implemented set to true, the STA do perform the shall at the condition?

A: Yes.

C: These other cases should be covered.

C: The other text mentions the EHT STA ends the TXOP ..... I think two texts are overlapped.

C: Ok with the general direction. Just clarifiction, is this defer transmission or stop the transmission?

A: The other text is mentioning to stop the transmission.

C: If the EHT STA is a memeber of rTWT SP, is it applied to this?

A: It’s already handled with the baseline text.

C: the current text already mentions if the STA supports rTWT, then the STA ends TXOP before the start of the rTWT SP. Do we need this additional text?

A: If the RBO is 0 and the remaining time is not enough, the STA should decide whether it transmits or not.

C: This is only applied to non-AP EHT STA. 11.8.3. only limits the non-AP STA.

A: The comment does not mention the STA is AP or non-AP.

C: There is no reason for AP to check whether it’s enough or not.

1. [1698r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1698-00-00be-cc36-cr-for-r-twt-quieting-rules.docx) CR for r-TWT Quieting rules Abdel K. Ajami [7C 15’]

Discussion:

C: Agree with the resolution. I think the STAs that are memebers of a restricted TWT SP imply the do11RestrictedTWT OptionImplemented set true. Seems redundant.

A:Ok

C: For intention of the current text, if EHT STAs don’t support the rTWT SP, the STA allows to ignore the quiet interval. This is EHT STA’s behavior. What is the problem on the current text? Do you want to make rTWT mandatory?

C: the correspond to the rTWT SP seems like redundant. The overlapping quiet interval already cover. You can remove the last part.

A: Ok.

C: The STA that is member of rTWT SP does not need to oberserve the quiet interval

C: You may describe the additional text in some cases for other STAs that is not member.

C: minor corrections: corresponds, a r-TWT scheduled STA, a member,..

A: Ok.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1698r2 for the following CIDs?7470, 6337, 6338, 4161, 4435, 6745, 4089, 4490, 4784**

42/7/16

1. [1086r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1086-00-00be-cc36-resolution-for-cids-in-clause-35-3-4-3.docx) CC36 Resolution for CIDs in Clause 35.3.4.3 Gaurang Naik [7C 15’]

Discussion:

C: Generally Ok. When the Neigbor Report element includes is weird. Instead of it, the Neigbor Report element including the Basic ML subelement ...

A: Ok.

**SP: Do you agree to accept the resolution in IEEE 802.11-21/1086r1 for the following CIDs?**

6687, 4045, 4740, 4741, 4046

No objection

1. [1731r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1731-00-00be-cr-for-35-2-1-3-remaining-part1.docx) CR for 35.2.1.3 remaining-part1 Dibakar Das [24C 35’]

Discussion:

C: The note is not the an MU-RTS TXS or basic Trigger frame.

A: OK.

C: I agree with you for the capability of 1 or 2. Only mode equal to 2.

A: OK.

C: Do we need still the Triggered TXOP sharing mode subfield?

A: OK, I’ll take a look at it.

C: The sentence for MU EDCA timer is too complicated.

A: I keep the same text as 11ax. We can check offline.

...

A: TDLS is no issue. Fine. TDLS is one type of p2p TXs.

C: extended too much.

C: how does the P2P work in mode set to 2? In changed figure. There is no setup between STA1 and STA2. How does the STA 2 know when the STA 1 transmits to STA2?

A: That is the part of P2P operation.

C: This is not clear to me.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**

## Thursday, December 2, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r8. Some modifications. The agenda was approved.

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

**Submissions**

1. [1210r](https://mentor.ieee.org/802.11/dcn/21/11-21-1210-00-00be-soft-ap-mlo-part1.docx)1 CR for NSTR Mobile AP MLO part1 Kaiying Lu [14C 20’]

Discussion:

C: Is the intention to advertise the information on other non-primary link without TBTT offset?

A: assuming same TSF timer.

C: Why do you use the encoding value? Other value?

A: Other fields are not necessary for this purpose. Option 1 is just to use Type subfield.

C: TSF, we don’t need the second sentence. Don’t repeat the process. Transmitter side is enough. If you want it, you can add the note.

C: Option 1, is going to be flexible. Other values can be used. Option 2 can use only 1 value. Option 1 is more flexible.

C: I prefer option 2.

C: Another option is to use ML element for NSTR mobile AP MLD in beacon frame.

C: TSF, I’d like to extend the same TSF to regular AP. You just mention the Mobile AP.

A: Fine.

C: Option 1 is to use new type. Option 2 is to use length field. Both use only length 3.

A: In option 1, we can use other values in the future.

C: We don’t know what is the future extension.

C: MLD ID in TBTT Information is useless. That ML element indicates this is mobile AP is better.

C: The transmitted-BSSID and non-transmitted BSSID can have the same TSF.

No straw poll.

1. [1862r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1862-00-00be-nsep-priority-access-treatment-discussion-related-to-35-14-3.pptx) NSEP priority access treatment disc. related to 35-14-3 Yonggang Fang[??C 20’]

Discussion:

C: option a: why should we use the broadcast method? Optoin B is unicast frame.

A: we need to provide the EDCA parameter updates by reducing the congestion.

C: is it updated for all MLDs? Same?

A; Yes same.

* + SP1: **Which option do you support for Initial NSEP EDCA parameter Distribution**
    1. Option A: Using default EDCA parameters for NSEP and don’t include EDCA Parameters in Request/Response Frames as described in slide #4
    2. Option B: Using dedicated NSEP EDCA Parameters in Request/Response Frames as described shown in slide #5
    3. Option C: Don’t change the current draft for Request/Response Frames and the EDCA parameters for NSEP in Request/Response Frames will be applied to all the links being negotiated
    4. Do not care

C: SP1, option b, is it new element? Clarify.

C: What is the difference between the option A and C?

C: What is the option C?

A: Same EDCA parameters in all links.

OptionA 6, optionB 29, OptionC14, Option4 17

1. [1713r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1713-00-00be-cc36-cr-for-ml-element-usage.docx) CR for ML element usage Ming Gan [18C 20’]

Presented. Not finished. No discussion due to lack of time.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:00 ET**

## Monday, December 6, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r9. Some modifications. The agenda was approved.

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

**Submissions**

1. [287r7](https://mentor.ieee.org/802.11/dcn/21/11-21-0287-07-00be-cc34-cr-emlsr-part2.docx) EMLSR part 2 M. Park [10C SP-10’]

Discussion:

C: Regarding the text that you added, you mean that the STA does not transmit the CTS/BSR? Inital control frame is MU-RTS or BSRP.

C: does not respond is strong. You can say that may not respond to..

A: This is the condition such as when the STA does not respond ... Any other opinion?

SP: Do you agree to accept the resolution in 11-21/287r7 for the following CIDs?- 4758, 6351, 6343, 6344, 7466, 5222, 6068, 6346

29Y/21N/18A

1. 1713r0, Ming

Discussion:

C: resolution of 6266, the resolution is incorrect. 35.3.4.2 is related to ML probe request and response. 35.3.4.4 is for contents of ML element.

A: 3.4.2 is for usage of ML element.

C: ML element does have address field.

C: 6268, what is the benefit for doing this? The complexity is adding.

C: The contents of common info, shall include the EML capability. EML capability may not present.

A: ok. What is the clause?

C: 35.3.16.

C: AP MLD may include the delay information subfield in other subclause.

A: Is this included in the beacon?

C: Need be consistency between them.

C: duplication of the.

C: end of the doc, addressing checking. We’d better have verification or justification on this. Some complication on this.

C:For link ID, you can remove the associated.

A: Ok.

C: I’m worried about the BSSID part.

C: Concern on shall not include the delay info subfield.

The text of the delay info subfield was also removed in the revision.

SP: Do you agree to accept the resolution in 11-21/1713r1 for the following CIDs?- 4048 5054 6269 5053 4255 4256 7407 5051 5369 5979 6199 6200 6263 6267 6604 7669

No objection.

1. [1786r](https://mentor.ieee.org/802.11/dcn/21/11-21-1786-00-00be-cr-for-nstr-mobile-ap-mlo-part2.docx)1 CR for NSTR Mobile AP MLO part2 Kaiying Lu [21C 30’]

Discussion:

C: multi-link setup is not of authentication and, 4-way handshake. Instead of ml setup, you can mention three procedure explicitly.

C: everything may follow the same procedure on primary link.

C: broadcast management frames are coming from AP MLD. The previous sentence is for non-AP MLD. You can separate.

C: What is the motivation of disallowing the broadcast management frame on non-primary link? Can you clarify?

C: The channel switch annoucement can be a part of a single PPDU.

C: How can the broadcast channe switch announcement frame be sent?

C: Instead of non-AP MLD, what about both MLDs?

C: or shall be performed on primary link.

C: why not adding disassociation?

C: disassociation is a procedure after association. Why do we restrict it?

C: broadcast management frame is from AP MLD? Then clarify it.

A: Ok, NSTR AP MLD.

C: timing field could be adopted to regular AP as well as NSTR Aps. We can have a unified reference for AP MLD.

C: you need to have the definition of MIB variable that you add.

C: you need to allow the link switch from one channel to other channel.

C: Name of MIB variable. May be NSTRMobileAPMLD.

C: If you change the MIB variable name, please provide the editor instruction to change it globally.

1. [1840r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1840-00-00be-cc36-cr-for-emlmr-links.docx) CC36 CR for EMLMR Links Yuxin Lu [7C 15’]

Presented but no discussion due to lack of time.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**

## Wednesday, December 8, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r10. Some modifications. The agenda was approved.

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

**Submissions**

1. [1710r4](https://mentor.ieee.org/802.11/dcn/21/11-21-1710-04-00be-cc36-resolution-for-cids-for-9-4-2.docx) CC36 resolution for CIDs for 9.4.2 Laurent Cariou [1C SP-10’]

Discussion:

C: the last page, you mentioned if link ID field is not in the common info field, then it’s in the per-STA profile?

A: Link ID of first AP is included in the common info field. That of the second recommended AP is included in the per-STA profile.

**SP: Do you agree to accept the resolution in 11-21/1710r5 for the following CID?- 5322**

35/7/24

1. 1254r3, CR on BTM,

Discussion:

C: The last sentence, EHT STA is HE STA. The previous text covers the last text.

C: We don’t need the text.

C: Your instruction is ambiguous. Whether non-green changed text is adopted or not.

A: Ok. Updated.

C: Your document is implemented after Laurent texts is implemented?

A: Yes.

**SP: Do you agree to accept the resolution in 11-21/1254r4 for the following CID?**

**5180**

No objection

1. [1731r2](https://mentor.ieee.org/802.11/dcn/21/11-21-1731-02-00be-cr-for-35-2-1-3-remaining-part1.docx) CR for 35.2.1.3 remaining-part1 Dibakar Das [24C SP-10’]

Discussion:

C: EHT STA could be EHT AP.

A: Ok, EHT non-AP STA.

C: Your editor intruction should be changed to r3.

C: We should think about the co-located AP for the last text (shares the same operating class, ...).

A: We can do at the next round

C: I wanna defer 4737

A: ok

C: The MU-RTS TXS Trigger frame should be MU-RTS Trigger frame in the note.

**SP: Do you agree to accept the resolution in 11-21/1731r3 for the following CIDs?**

* 6123, 6128, 6133, 6124, 7588, 7706, 8292, 8293, 5708, 7809, 7810, 8318, 5153, 5237, 5518, 5734, 7558, 8322, 8323, 8324, 8327, 4193, 4821.

29/12/33

1. [1840r2](https://mentor.ieee.org/802.11/dcn/21/11-21-1840-02-00be-cc36-cr-for-emlmr-links.docx) CC36 CR for EMLMR Links Yuxin Lu [7C Q&A 10’]

Discussion:

C: 1840r0 is still in the resolution. You need to change.

A: I’ll do it.

C: The change related NSS is good change to me. Did you include the TX and Rx in the table?

A: Yes.

C: typo, change B132 => B32.

1. [1898r](https://mentor.ieee.org/802.11/dcn/21/11-21-1898-00-00be-cc36-resolution-to-cids-for-35-3-6-1-1.docx)2 CC36 resolution to CIDs for 35.3.6.1.1 Laurent Cariou [42C 45’]

Discussion:

C: If a link is disabled , the STA is in power saving state. Can the STA still use PS-Poll ?

C: Is this using PM bit for that operation?

A: No. This is just based on TID-to-link mapping.

C: For disable or enable link, the link concept is logical or physical? If physical link, the link could be disabled for a STA and enabled for another STA.

A: Yes right.

C: In the note, you mention only non-EHT STA. What if EHT STA?

A: That is debatable.

C: At this time, we can remove the note.

A: We can defer the note.

C: you can mention the group addressed frame delivery is defined in 35.3.14 Multi-link group addressed frame delivery and reception. I’m working on that part.

C: We can have more discussion.

C: What’s the behaviour of non-AP MLD? Does it receive the group address frame on disable link?

A: The group address frame can be sent on other links. The STA MLD can receive the frame on enabled link.

C: The sentence in the note is broken.

A: It’s defered. I can revert it.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:00 ET**

## Thursday, December 9, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r11. Some modifications. The agenda was approved.

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

**Submissions**

1. [1898r](https://mentor.ieee.org/802.11/dcn/21/11-21-1898-02-00be-cc36-resolution-to-cids-for-35-3-6-1-1.docx)3 CC36 resolution to CIDs for 35.3.6.1.1 Laurent Cariou [42C 25’]

Discussion:

C:4052, this sentence is overlapped with the above text such as (1226) the non-AP MLD may retrieve individually...

A: different.

C: what is the difference?

C: The first is for non-AP and the second is for AP. Data frame or not?

A: Yes.

C: how about changing the individual addressed frame to individual addressed QoS data frame.

C: Could we allow all management frames or control frames?

A: Some managment frame like TID-to-link mapping could be allowed.

C: If a link is disabled, the QoS data for TID to link mapping shoud not be allowed.

A: Is that you want to allow to transmit management on disabled links?

C: This text is ambiguous.

A: What you mentioned is already agreed in D1.3. What do you want?

C: The management should be transmitted on any setup link because the management does not have TID if the link is disabled.

C: all class 1 frames should be allowed to be transmitted on any link regardless of management or control frame.

C: class 1 frames are related to IBSS or PBSS.

C: for 5753 text, why do you describe the text for active mode?

A: There is no description.

C: Each STA shall receive the data frame from any AP.

A: Ok, we can add some text.

C: shall or may? AP may not have data.

C: where is the group addressed transmitted? Enabled link, disabled links, or setup links. You need to mention it in this subclause because this subclause describe the enabled/disabled link related texts.

A: We can describe all things for group addressed frame in the refered subclause.

C: I support the modification on limitation on some management.

C: why do you restrict such a frame transmission?

The controversial CIDs (e.g., 6282) were removed.

**SP: Do you agree to accept the resolution in 11-21/1898r4 for the following CIDs?**

5244 5607 6549 4825 7060 5754 6730 5213 6280 4051 5245 5682 6577 4050 5365 8236 6887 5683 5778 6731 5144 6281 6361 6455 8237 8340 4451 5749 5750 5751 5752 5753 4052 5077 4053 5608 8341 5684 4054 5685

31/16/29

1. [1907r](https://mentor.ieee.org/802.11/dcn/21/11-21-1907-00-00be-cc36-cr-for-nsep-clause-35-11.docx)1 CR\_for\_NSEP\_Clause\_35.11 Subir Das [15C 25’]

Discussion:

C: You wanna change ...

C: Do you want to add the definition of an NSEP MLD in the definition subclause 3.2?

A: We can do for NSEP AP MLD an NSEP non-AP MLD.

C: is there any definition on NSEP already? If not, you can add in subclause 3.

A: I described the definition in clause 35.

C: You wanna change the STA level to MLD level? Right? There is still a STA level texts in subclause 4.

C: You can remove the capability subfield in EHT capabilities element. Move it to common field. if it’s MLD level.

C: NSEP AP or non-AP MLD, did you adopt it to all parts?

**SP: Do you agree to accept the resolution in 11-21/1907r2 for the following CIDs?**

* 7527, 4170, 5616, 4171, 5617, 5854, 5855, 7523, 7092, 7524, 4491, 4492, 4493, 5618

No obection

1. [1802r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1802-00-00be-cc36-crs-restricted-twt-additional-rules.docx) CC36-CRs-restricted-TWT-additional-rules Chunyu Hu [15C 25’]

Discussion:

C: There is already a triggered-enabled TWT in the baseline. What is the new one?

A: It’s more clarification. It follows the baseline.

C: This can be moved to common TWT part.

C:MU-RTS TXS support the mode 2. How can the mode 2 be used? How does the synergy ? The STA can be in mode 1 or mode 2. If this is adopted, how can it be supported? How does it work with TWT SP?

C: We don’t need redundant texts.

A: I can move it.

C: This is general for mode 1. In mode 2, STA with mode 2 follows this.

C: It migt be problematic in the first sentence of 37.7.5.2...

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:00 ET**

## Monday, December 13, 2021, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 19:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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) 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r13. Some modifications. The agenda was approved.

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

**Submissions**

1. [1802r](https://mentor.ieee.org/802.11/dcn/21/11-21-1802-00-00be-cc36-crs-restricted-twt-additional-rules.docx)3 CC36-CRs-restricted-TWT-additional-rules Chunyu Hu [15C SP-10’]

Discussion:

C: The texts in 26.8.2 should be clarified. Such as should be changed should => may, and you can add should not transmit any other type of frames.

C: you changed TB PPDU to either TB PPDU or non-TB PPDU. Why? Benefit?

C: why do you bring the EMLSR?

C: 11ax STAs does not know rTWT or TXS. You can describe them in other parts instead of modifying 11ax texts.

C: what does the shall first trigger mean? Maybe you can say schedule the trigger frame. And, you can change shall to should. Should is more preferal.

C: In power saving, the text of only at the start times of is a little weird. How about from the start time?

A: This is from baseline spec texts.

1. [534r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0534-11-00be-cr-ml-reconfiguration.docx)2 CR ML Reconfiguration Payam Torab[5C SP-10’]

Discussion:

C: first item, the legacy STA does not understand the new signaling. This is not true. I wanna delete the related texts.

A: The text is mentioning not transmitting to non-AP MLD.

C: Better to add some text for clarification.

C: If you want SP, you can remove the texts that I mentioned.

C: What does it mean? You mean it should be transmitted to all STAs.

**SP: Do you agree to accept the resolution in 11-21/534r13 for the following CIDs?**

* 4659, 5305, 6587, 6641, 6728, 5917

54/6/22

1. [1591r](https://mentor.ieee.org/802.11/dcn/21/11-21-1591-02-00be-multi-link-association-terminology.docx)3 Multi-Link Association Terminology Payam Torab [3C SP-10’]

Discussion:

**Straw Poll #1**

**Do you agree with changing “multi-link setup” (the procedure) to “multi-link association”? Similarly, “multi-link resetup” (the procedure) to “multi-link reassociation”.**

*Note 1: Intention of this straw poll is to bring a text contribution that implements the above changes (through a combination of actual text and instructions to the editor).*

*Note 2: For example, “After a successful multi-link ~~(re)setup~~ (re)association between a non-AP MLD and an AP MLD, a PMKSA and PTKSA are established between the non-AP MLD and the AP MLD (see Clause 12 (Security)).”*

C: It is additional stuff. It’s not good to change it. Multi-link association is very confusing. Just my opinion.

C: I think we need two separate discussions between multi-link setup and MLD level association.

A: This is just change of name.

37/25/20

**Straw Poll #2**

**What is your preference for the term “setup link” used throughout the text?**

*Example: “A setup link is defined as enabled if at least one TID is mapped to that link and is defined as disabled if no TIDs are mapped to that link. At any point in time, a TID shall always be mapped to at least one setup link, unless admission control is used. By default, as TIDs are mapped to all setup links, all setup links shall be enabled (see 35.3.6.1.2 (Default mapping mode)).*

1. **No change needed**
2. **“setup” is redundant in most cases; authors may use “a link that has been set up” or a “link set up” where emphasis on set up is desired**
3. **New term is needed, e.g., “established link”, “signaled link”, “negotiated link”**
4. **Something else**

C: I don’t agree with redundant. If you remove it, whole thing is technically collided.

C: Prefer option c. we can change to the association link.

C: Prefer option c.

28/8/33/4

1. [1731r4](https://mentor.ieee.org/802.11/dcn/21/11-21-1731-04-00be-cr-for-35-2-1-3-remaining-part1.docx) CR for 35.2.1.3 remaining-part1 Dibakar Das [24C SP-5’]

**SP: Do you agree to accept the resolution in 11-21/1731r4 for the following CIDs?**

6123, 6128, 6133, 6124, 7588, 7706, 8292, 8293, 5708, 7809, 7810, 8318, 5153, 5237, 5518, 5734, 7558, 8322, 8323, 8324, 8327, 4193

No objection

1. [1894r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1894-00-00be-cr-for-cids-on-tid-to-link-mapping.docx) CR for CIDs on TID-to-Link Mapping Yongho Seok [50C 50’]

Presented, not finished due to lack of time.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 21:00 ET**

## Thursday, December 16, 2021, 10:00 – 12:00 ET (TGbe MAC ad hoc conference call)

Chairman: Liwen Chu (NXP)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Liwen, NXP) calls the meeting to order at 10:02 ET. The Chair introduces himself and the Secretary (Jeongki Kim, Ofinno).
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.
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   * 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](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim.ieee@gmail.com](mailto:jeongki.kim.ieee@gmail.com))
5. The Chair asked whether there is comment about agenda in 11-21/1775r15. Some modifications. The agenda was approved.

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

**Submissions**

1. [1978r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1978-00-00be-cr-for-11-3.docx) CR for 11.3 Po-Kai Huang [44C 45’]

Discussion:

C: there is still multi-link setup text.

A: Please contact me for it.

C: MLD MAC address can be included in the FILS authentication. Not much information.

A: Ok. We can further discuss it later.

A: 6608, I can discuss offline.

C: Rojan’s comment, that you rejected. Without ML element. I did not get it. Is it intend to associate? You mean a STA affiliated with a MLD is allow to transmit an association request frame without ML element?

A: It’s similar baseline.

C: There is the redundant text (to allow). Disassociate from? Associated AP MLD?

C: Still confusing with the note. You said that shall not transmit without ML element.

C: Is it the different AP? Or the same AP MLD?

A: It’s the baseline procedure. I don’t want to open more.

C: Please change reject to revised for my comment resolutions.

Will come back after the next presentation.

**SP: Do you agree to accept the resolution in 11-21/1978r1 for the following CIDs?**

6171, 6038, 8304, 7591, 5631, 5634, 5635, 6033, 5636, 5637,

5644, 5645, 5646, 5920, 4372, 8305, 8306, 7380, 6034,

, 6035, 5294, 5295, 5296, 8307, 8309, 7367,

7441, 4352, 4373, 7385, 5300, 5316, 5345, 6640, 7433,

6585, 7513, 8310, 8311,

No objection.

6608, 6713, 7891, 6101, 8308, were defered.

1. [1808r](https://mentor.ieee.org/802.11/dcn/21/11-21-1808-01-00be-cc36-cr-of-cid-8197.docx)1 cc36 cr of CID 8197 Yunbo Li [1C 15’]

Discussion:

C: What is difference between this and TID-to-link mapping? The buffer status reporting is not for the TID based.

C: We have different ways for BSR.

C: Those are related to MLD. There is such no need.

A: I agree BSR should be MLD level. It may have the delay. Suffer frame the delay depending on different implementation. If you have the capability indication, you will have repoted it at any link.

C: Buffer report is MLD level. Not link level. Weaker implementation.

A: Although it’s weaker implementation, we can have multi-link benefit.

C: Can we defer this to R2?

A: If this is defined in R2, R1 AP does not understand this capability. It’s better to add at least the capability of it.

I want to defer the SP [ CID 8197]

1. [1869r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1869-00-00be-cr-for-mle-fragmentation.docx) CR for MLE Fragmentation Jason Y. Guo [2C 15’]

Presented but no discussion due to lack of time.

**The chair asked whether there is any other business before adjourning the call. Nobody spoke.**

**The teleconference was adjourned at 12:01 ET**