IEEE P802.11
Wireless LANs

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| Minutes for TGbe MAC Ad-Hoc teleconferences in March to May 2022 |
| Date: 2022-03-16 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Jeongki Kim | Ofinno |  |  | jeongki.kim.ieee@gmail.com |
| Liwen Chu | NXP |  |  | liwen.chu@nxp.com |
|  |  |  |  |  |

Abstract

This document contains the meeting minutes for the TGbe MAC ad hoc teleconferences in March to May 2022.

Revisions:

* Rev0: Added the minute from the teleconferences held on March 16 and 17.
* Rev1: Added the minute from the teleconference held on March 21.
* Rev2: Added the minute from the teleconference held on March 24.
* Rev3: Added the minute from the teleconference held on March 28.

**Wednesday, March 16, 2022, 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) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-22/428r3. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 3/16 | Ajami, Abdel Karim | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 3/16 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 3/16 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 3/16 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 3/16 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 3/16 | Chemrov, Kirill | IITP RAS |
| TGbe (MAC) | 3/16 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 3/16 | Chng, Shi Baw | BAWMAN LLC |
| TGbe (MAC) | 3/16 | Chung, Bruce | Realtek Semiconductor Corp. |
| TGbe (MAC) | 3/16 | Chung, Chulho | SAMSUNG |
| TGbe (MAC) | 3/16 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 3/16 | Erkucuk, Serhat | Ofinno |
| TGbe (MAC) | 3/16 | Fan, Shuang | ZTE Corporation |
| TGbe (MAC) | 3/16 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 3/16 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 3/16 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 3/16 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 3/16 | Gupta, Binita | Meta Platforms, Inc. |
| TGbe (MAC) | 3/16 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 3/16 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 3/16 | Handziski, Vlado | R3 Solutions GmbH |
| TGbe (MAC) | 3/16 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbe (MAC) | 3/16 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 3/16 | Huq, Kazi Mohammed Saidul | Ofinno |
| TGbe (MAC) | 3/16 | Ibrahim, Ahmed | Samsung Research America |
| TGbe (MAC) | 3/16 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 3/16 | Kim, Jeongki | Ofinno |
| TGbe (MAC) | 3/16 | kim, Jiin | LG ELECTRONICS |
| TGbe (MAC) | 3/16 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 3/16 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 3/16 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 3/16 | Kim, Youhan | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Klein, Arik | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/16 | Koundourakis, Michail | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 3/16 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 3/16 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 3/16 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 3/16 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 3/16 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/16 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/16 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 3/16 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | NANDAGOPALAN, SAI SHANKAR | Synaptics |
| TGbe (MAC) | 3/16 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 3/16 | Ozgun, Bahadir | Airties Wireless Networks |
| TGbe (MAC) | 3/16 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 3/16 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 3/16 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 3/16 | Ratnam, Vishnu | Samsung Research America |
| TGbe (MAC) | 3/16 | Ryu, Kiseon | Ofinno |
| TGbe (MAC) | 3/16 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 3/16 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 3/16 | Taori, Rakesh | Infineon Technologies |
| TGbe (MAC) | 3/16 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 3/16 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 3/16 | Wentink, Menzo | Qualcomm Incorporated |
| TGbe (MAC) | 3/16 | Wullert, John | Peraton Labs |
| TGbe (MAC) | 3/16 | Yamada, Ryota | SHARP CORPORATION |
| TGbe (MAC) | 3/16 | Yang, Jay | Nokia |
| TGbe (MAC) | 3/16 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 3/16 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 3/16 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |
| TGbe (MAC) | 3/16 | Yukawa, Mitsuyoshi | Canon, Inc. |
| TGbe (MAC) | 3/16 | Zaman, Malia | IEEE Standards Association (IEEE-SA) |
| TGbe (MAC) | 3/16 | Zhang, Jiayi | Ofinno |
| TGbe (MAC) | 3/16 | Zhou, Lei | H3C Technologies Co., Limited |
| TGbe (MAC) | 3/16 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

 **Submissions**

1. [0308r3](https://mentor.ieee.org/802.11/dcn/22/11-22-0308-02-00be-cc36-resolution-for-cids-related-to-ml-advertisement-part-3.docx) Res. for CIDs related to ML adv.-P3 Abhishek Patil [24CIDs-Ctd.]

Discussion:

C: You changed HE part. Why not adding it in EHT subclause? move whole part to 35 clause?

A: No need to be duplicated.

C: how about adding ”to describe the STA 6G.”

A: to provide capabilities and operational parameters of the STA 6G.

C: Need to remove the shall in the note.

C: Need more discussion for SSID element on MLD.

**SP: Do you support to accept the resolution in 11-22/0308r4 for the following CIDs?**

* 5179 6541 6988 6989 6520 6542 5517 6213 4101 4264 4265 5515 5516 5828 6620 8059 5170 5906 8032

No objection

1. [1272r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1272-00-00be-cc36-cr-on-5174.doc) CR on 5174 Guogang Huang [1 CIDs]

Discussion:

**SP: Do you support to accept the resolution in 11-21/1272r1 for the following CID?**

5174

No objection

1. [1273r2](https://mentor.ieee.org/802.11/dcn/21/11-21-1273-02-00be-cc36-cr-on-5196.docx) CR on 5196 Guogang Huang [1 CIDs]

**Discussion:**

C:Why do you add the field?

A: AP can know it.

C: MSDU deliver ratio, how do you use ? discarding the frame at the receiver buffer?

A: QoS characteristics element is defined SCS streams? Not TID? Do you agree?

C: can SCSIDs be differentiated with..?

A: we don’t extend the TID using 0-7, 0-15, Some SCS stream need to be distinguished.

1. [1279r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1279-00-00be-cc36-cr-for-d1-0-aad-and-nonce-cids.docx) CR for D1.0 AAD and Nonce CIDs Rojan Chitrakar [2 CIDs]

Disucssion:

C: The 1 bit proposed is not protected in the CCMP Header. The MLD bit is not protected. We need more discussion for the security.

A: Understand.

C: This is for improving the receiver side. Not sure if it’s necessary.

1. [1277r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1277-00-00be-cc36-cr-for-d1-0-group-key-handshake-cids.docx) Group Key handshake CIDs Rojan Chitrakar [5 CIDs]

Presented for 1 CID but not finished.

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

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

**Thursday, March 17, 2022, 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) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-22/428r5. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 3/17 | Ajami, Abdel Karim | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 3/17 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 3/17 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 3/17 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 3/17 | Chemrov, Kirill | IITP RAS |
| TGbe (MAC) | 3/17 | CHERIAN, GEORGE | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 3/17 | Chng, Shi Baw | BAWMAN LLC |
| TGbe (MAC) | 3/17 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 3/17 | Das, Subir | Peraton Labs |
| TGbe (MAC) | 3/17 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 3/17 | Erkucuk, Serhat | Ofinno |
| TGbe (MAC) | 3/17 | Fan, Shuang | ZTE Corporation |
| TGbe (MAC) | 3/17 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 3/17 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 3/17 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 3/17 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 3/17 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 3/17 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbe (MAC) | 3/17 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 3/17 | Huq, Kazi Mohammed Saidul | Ofinno |
| TGbe (MAC) | 3/17 | Ibrahim, Ahmed | Samsung Research America |
| TGbe (MAC) | 3/17 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | kim, Jiin | LG ELECTRONICS |
| TGbe (MAC) | 3/17 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 3/17 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 3/17 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 3/17 | Kim, Youhan | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 3/17 | Levesque, Chris | Qorvo |
| TGbe (MAC) | 3/17 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 3/17 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 3/17 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 3/17 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 3/17 | Mutgan, Okan | Nokia |
| TGbe (MAC) | 3/17 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 3/17 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 3/17 | Ouchi, Masatomo | Canon |
| TGbe (MAC) | 3/17 | Ozgun, Bahadir | Airties Wireless Networks |
| TGbe (MAC) | 3/17 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 3/17 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 3/17 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 3/17 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 3/17 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 3/17 | Roder, Patricia | IEEE STAFF |
| TGbe (MAC) | 3/17 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 3/17 | Ryu, Kiseon | Ofinno |
| TGbe (MAC) | 3/17 | Sato, Takuhiro | SHARP CORPORATION |
| TGbe (MAC) | 3/17 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 3/17 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 3/17 | Shu, Tongxin | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/17 | Sun, Bo | ZTE Corporation |
| TGbe (MAC) | 3/17 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 3/17 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 3/17 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 3/17 | Wullert, John | Peraton Labs |
| TGbe (MAC) | 3/17 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 3/17 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 3/17 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |
| TGbe (MAC) | 3/17 | Zhang, Jiayi | Ofinno |
| TGbe (MAC) | 3/17 | Zhou, Lei | H3C Technologies Co., Limited |
| TGbe (MAC) | 3/17 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

 **Submissions**

1. [0326r2](https://mentor.ieee.org/802.11/dcn/22/11-22-0326-01-00be-cc36-cr-for-35-6-1.docx) Comment Resolution for 35.6.1 and 3.1 CIDs Binita Gupta [26 CIDs]

Discussion:

C: If the sequnce flow is missing, it will be delayed. What kind of mechanism is used for higher reliability for latency senstive traffic?

A: r-TWT can be used for TXOP protection of latency sensitive traffic.

C: refering the context. High TX probability could reduce the retransmission.

C: No WLAN network in the spec. You can replace it with AP/STA.

C: Do we have network entity?

C: Use the BSS instead of WLAN network.

C: We can add some texts in front of the text for 7082.

C: You can define the related MIB variable (annex) in this document. You can check it.

C: Latency sensitive traffic is too general term. We need to general description. We can add the details in the first part of the last page.

A: This is general section. And, we already have the general definition in definition section.

C: For resource researvation mechanism, SCS mechanism is optional. How does the AP decide TWT in this case?

C: You need to provide the benefit of r-TWT SP as rejection reason compared to RAW.

C: RAW is only for S1G STA.

C: TWT was defined for S1G STA but 11ax brought it. The commenter already knows it’s for S1G.

C: We can defer the 6479.

C: 5662, what kind of traffic is lower latency traffic of r-TWT?

C: Is there the definition of network latency?

A: The definition is known term in 3GPP and others.

C: New term in IEEE ?

A: We can defer.

C: What is the certain reliability constraints? Ambiguous.

7462, 5662, 6479 were deferred in the document.

**SP: Do you support to accept the resolution in 11-22/325r3 for the following CIDs?**

7730, 4120, 4711, 5727, 6333, 6508, 6509, 7083, 5660,

5661, 5663, 6513, 4152, 7082, 5359, 5642, 6477, 7676,

7875, 4092, 5643, 7485, 7677

32/14/24

1. [0292r3](https://mentor.ieee.org/802.11/dcn/22/11-22-0292-01-00be-cc36-mlo-power-save-procedures-part-2.docx) MLO Power Save Procedures (part 2) Abhishek Patil [11 CIDs]

Discusion:

C: Is that MLD BSS operation?

C: Is that APSD or U-APSD?

C: what about active mode in traffic indication?

A: In active mode, the bit is set to 0.

**SP: Do you support to accept the resolution in 11-22/292r4 for the following CIDs?**

5261 5353 6303 8036 7414 6159 7501 8297 7876 8362

No objection

1. [1277r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1277-00-00be-cc36-cr-for-d1-0-group-key-handshake-cids.docx) Group Key handshake CIDs Rojan Chitrakar [5 CIDs Cont.]

Discussion:

C: My comment suggests only to add the reference.

A: already there.

C: 6205, 12.6.1.1.11, For authenticator MAC address, you may add the non-MLO like BIGTK.

C: Just explanation for MLD, the authenticator’s MAC address is the MLD MAC address. Anyway, both have the authenticaor’s MAC address. We don’t need any addition.

**SP: Do you support to accept the resolution in 11-21/1277r0 for the following CIDs?**

6205, 6632, 6723, 6724, 7883

No objection

1. [1973r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1973-00-00be-comment-resolution-35-1-and-35-3-1.docx) CID-spreadsheet-35-1-and-35-3-1 Carol Ansley [5 CIDs]

Discussion:

C: What is the 1971r0?

A: I have to correct it(to 1973r2). The same document.

C: You need to add the CID.

C: Need to be normative text. You can add the shall.

C: generalize.

C: 6176 can be deferred.

Discussion on clause 9 frame format. The related CID was deferred.

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

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

**Monday, March 21, 2022, 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.
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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) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-22/428r6. Some modifications. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 3/21 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/21 | Adachi, Tomoko | TOSHIBA Corporation |
| TGbe (MAC) | 3/21 | Ajami, Abdel Karim | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 3/21 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 3/21 | Carney, William | Sony Group Corporation |
| TGbe (MAC) | 3/21 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 3/21 | Chng, Shi Baw | BAWMAN LLC |
| TGbe (MAC) | 3/21 | Choi, Jinsoo | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Chu, Liwen | NXP Semiconductors |
| TGbe (MAC) | 3/21 | CHUN, JINYOUNG | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 3/21 | Fan, Shuang | ZTE Corporation |
| TGbe (MAC) | 3/21 | Fang, Yonggang | Mediatek |
| TGbe (MAC) | 3/21 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 3/21 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 3/21 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 3/21 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 3/21 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 3/21 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Jung, hyojin | Hyundai Motor Company |
| TGbe (MAC) | 3/21 | Kim, Jeongki | Ofinno |
| TGbe (MAC) | 3/21 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 3/21 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 3/21 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 3/21 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 3/21 | Lanante, Leonardo | Ofinno |
| TGbe (MAC) | 3/21 | Lim, Dong Guk | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 3/21 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 3/21 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 3/21 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 3/21 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 3/21 | Moon, Juseong | Korea National University of Transportation |
| TGbe (MAC) | 3/21 | Mutgan, Okan | Nokia |
| TGbe (MAC) | 3/21 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | NANDAGOPALAN, SAI SHANKAR | Synaptics |
| TGbe (MAC) | 3/21 | Nayak, Peshal | Samsung Research America |
| TGbe (MAC) | 3/21 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 3/21 | Ouchi, Masatomo | Canon |
| TGbe (MAC) | 3/21 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 3/21 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 3/21 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 3/21 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 3/21 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Ratnam, Vishnu | Samsung Research America |
| TGbe (MAC) | 3/21 | Rezk, Meriam | Qualcomm Incorporated |
| TGbe (MAC) | 3/21 | Ryu, Kiseon | Ofinno |
| TGbe (MAC) | 3/21 | Sato, Takuhiro | SHARP CORPORATION |
| TGbe (MAC) | 3/21 | Seok, Yongho | MediaTek Inc. |
| TGbe (MAC) | 3/21 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 3/21 | Shirakawa, Atsushi | SHARP CORPORATION |
| TGbe (MAC) | 3/21 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 3/21 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 3/21 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 3/21 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 3/21 | Wu, Tianyu | Apple, Inc. |
| TGbe (MAC) | 3/21 | Wullert, John | Peraton Labs |
| TGbe (MAC) | 3/21 | Yamada, Ryota | SHARP CORPORATION |
| TGbe (MAC) | 3/21 | Yang, Jay | Nokia |
| TGbe (MAC) | 3/21 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 3/21 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 3/21 | Yi, Yongjiang | Spreadtrum Communication USA Inc. |
| TGbe (MAC) | 3/21 | Zhang, Jiayi | Ofinno |
| TGbe (MAC) | 3/21 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

 **Submissions**

1. [508r1](https://mentor.ieee.org/802.11/dcn/22/11-22-0508-00-00be-cc36-resolution-to-cids-for-35-3-6.docx) CC36 resolution to CIDs for 35.3.6 Laurent Cariou [52C-55’]

Discussion:

C: data and management are individually addressed?

A: Yes

C: I have CIDs related to 5350. We can take offline discussion.

A: Ok

C: In Note, should be individual bufferable Management frames.

C:5272 is related to other CIDs. Can you defer it?

A: ok

C:5283, should be revised. It’s clarified in D1.5 already. 6260 is same(revised).

5272, 5273,

C: 5283, is already resoloved. You don’t need to remove it in the CID list.

**SP: Do you support to accept the resolution in 11-22/508r2 for the following CIDs?**

7850, 6757, 4055, 6578, 7816, 6283, 4056, 4057, 4058, 4742, 4743, 4744, 5985, 6287, 6288, 6403, 4061, 5239, 8039, 6580, 4745, 7333, 7852, 4110, 6582, 4382, 4383, 5271, 5274, 5029, 7819

5080, 5081, 5282, 5283, 6459, 6460, 5685, 4054, 6258, 6526, 5214

5922, 6579, 6731, 6504, 6524

No objection

1. [392r0](https://mentor.ieee.org/802.11/dcn/22/11-22-0392-00-00be-cc36-crs-for-some-cids-on-restricted-twt.docx) CRs for some CIDs on Restricted TWT M. K. Haider [12C-15’]

Discussion:

C: 7631, do we have an individual code for status code field? Just EHT? We have so many optional features. Why do we specify only the r-TWT SP?

A: I can defer this.

6507 is deferred.

**SP: Do you support to accept the resolution in 11-22/392r0 for the following CIDs?**

4772, 5348, 6506, , 4781,

6413, 7408, 5878, 4122, 5730,

, 4589

No objection

1. [439r1](https://mentor.ieee.org/802.11/dcn/22/11-22-0439-00-00be-cc36-cr-for-remaining-cids-about-critical-update.docx) CR for remaining CIDs about critical update Ming Gan [12C-15’]

Discussion:

C: This is fine. We need to distingish it from non-transmitted BSSID.

A: Ok

C: Note is not in the latest draft.

C: Need to modify the subclause to 35.3.10

C: 5939, you can mention outside the basic multi-link element at the end of the indicated text

C: we can defer 7339, 6754 for offline discussion

A: ok.

C: BSS Parameter Change Count corresponds to either the reporting AP or the reported AP.

**SP: Do you support to accept the resolution in 11-22/439r2 for the following CIDs?**

4003 4347 4348 5590 5939 6764 4012 5744 6014 7570

No objection.

1. [0061r0](https://mentor.ieee.org/802.11/dcn/22/11-22-0061-00-00be-cc36-cr-for-ml-probing-to-retrieve-critical-update.docx) CR 4 ML probing 2 retrieve Crit. Update Jiin Kim [1C-15’]

Discussion:

C: what don’t you put just the reporting AP instead of AP (reporting AP)? Why do you have paratheses? Is there any different case?

C: at least any elements

C: If a reporting AP or When a reporting AP

C: This belongs to further optimization. Increase complexity. Overhead.

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

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

**Thursday, March 24, 2022, 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) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-22/428r8. Some modifications. The agenda was approved.

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

**Submissions**

1. [306r1](https://mentor.ieee.org/802.11/dcn/22/11-22-0306-00-00be-cc36-cr-emlsr-misc.docx) CC36 CR EMLSR Misc. Minyoung Park [54C-60’]

Discussion:

C: 5357, I’m not clear EMLSR STA’s operation for NAV update.

A: If STA receive non-HT PPDU, the STA can set the NAV based on the duration field.

C: There is fairness issue for NAV setting with other STAs.

5357 is deferred.

C: static SM power saving can be operated in EMLSR mode.

A: I can remove it in the text.

C: EHT STAs don’t use static SM power saving?

C: AP sets this subfield to 1 in complete profile. Is it mandatory?

A: Yes.

C: This offset is relative with which one?

A: Between reported and reporting.

C: Can this TSF Offset be inferred from TBTT Offset?

A: TBTT offset is 1 TU unit. 1ms.

C: TSF timer could be rap around. Does it work?

A: I think it works.

C: enabled links or setup links? It seems like cicle.

A: enabled links is correct.

C: You do not have to have two paragraphs for one bit setting in TIM element. Individual addressed BU including MSDU and MMPDU.

C: 6885 is related to r-TWT. Could you defer it?

A: Sure.

C: 6984, I have concent on it. Can you defer it? 4029 could be deferred.

A: OK

C: We should not allow the Bitmap Size subfield value of 0. Only one link is operation on the AP MLD. This is redundent information.

C: if this is the largest value, then what is it? if this is not the largest value, then what is it?

C: 5773, 4932, we can defer them.

A: Ok

C: 6586 is deferred.

C: how about listening mode?

A: We left the implementation.

C: 7866, 6326 are deferred.

C: padding delay, it depends on implementation for non-HT PPDU and TB PPDU. Could you defer 8049?

A: Ok, 8049 is deferred.

C: CID static SM/dynamic SM powers aving. Can you defer the related CIDs?

C: 7822 could be deferred.

5357, 6345, 5932, 4029, 4334, 4335, 4336, 5747, 5905, 6247, 6248, 6885, 7822, 6984, 5773, 4932, 6586, 7866, 6326, 8049, were deferred.

**SP: Do you support to accept the resolution in 11-22/306r1 for the following CIDs?**

4700, 4701, 7497, 7612, 7613, 6939, 4332,

4306, 6170, 5346, 6348, 4371, 6219, 5342, 4333, 7565,

5912, 7580, 6349, 5138, 5760,

6502, 4389, 4749, 5149, 5762, 7418,

7825, 7867, 4757, 7422,

6962, 5934, 7423

 No objection.

1. [2027r3](https://mentor.ieee.org/802.11/dcn/21/11-21-2027-01-00be-cc36-resolution-for-cids-in-clause-35-3-4-3-part-2.docx) Resolution for CIDs in Clause 35.3.4.3-part 2 Gaurang Naik [20C-25’]

Discussion:

C: you change it from be able to discover to shall discover. Meaning is different.

A: I can take the offline discussion for two CIDs 6198, 7456.

C: exception cases in your proposed text.

A: Non-AP STA intends to receive the group addressed frame. We can defer the CIDs.

, 6198, 7456, 4025, 6324, 4421, 8356, 4699, 6069 were deferred.

**SP: Do you support to accept the resolution in 11-21/2027r3 for the following CIDs?**

4047, 5076, 5914, 5978, 6751 6981, 7893, 6011, 5336

5451, 8048, 7467

No objection

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

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

**Monday, March 28, 2022, 19:00 – 21:00 ET (TGbe MAC ad hoc conference call)**

Chairman: Alfred Asterjadhi (Qualcomm Inc.)

Secretary: Jeongki Kim (Ofinno)

This meeting took place using a webex session.

**Introduction**

1. Due to Liwen’s screen problem, the TGbe chair (Alfred) calls the meeting to order at 19:04 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) and Jeongki Kim (jeongki.kim.ieee@gmail.com)
5. The Chair asked whether there is comment about agenda in 11-22/428r10. The agenda was approved.

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

**Submissions**

1. [1825r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1825-00-00be-remaining-cr-for-35-3-15-8-1.docx) Remaining CR for 35.3.15.8.1 Dibakar Das [50C-60’]

Discussion:

C: Need more discussion on 5105.

A: ok, can you take it?

C: Ok

8350 is reassigned to Greg. The chair announce that 8350 needs to be resovled in a week. Otherwise it could be qurantined.

C: you added new MIB variable? Did you cross-check it in the spec?

A: Yes

C: 6320 needs to be deferred.

A: ok

C: A few comments on MLMR also need more discussion.

6136 is deferred as well.

C: You used absolute value. I’m not comfortable with it.

A: STA does not use the fixed value but uses MIB variable instead of the fixed value. OFDMEDTheashold is already a fixed value in the baseline. The same.

C: I have similar concern on previous commenter. There is only one sentence for fixed value in the spec.

C: You need to update the MIB variable range values .

The MIB related CIDs (8349, 8350) were deferred.

C: Yongho, can you suggest the line to add to the MIB variable with the range?

C: We can add on the fly that part if straightforward once we are done with this second round of CIDs

A: Change to SYNTAX Integer32(-62..-82)

C: 5326, Liwen has a resolution. Need to consider it with others.

C: why do you change the text to ”determine...”?

A: it’s in the baseline.

C: I will check it.

C: can you defer 8184?

A: ok

C: I need to defer this CIDs for more discussion 4836, NSTR softAP.

C: What is the resolution on CID?

C: change from unsigned to integer. (-72..-62)

**SP1:**Do you agree to resolve the following CIDs listed in [11-21/1825r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1825-01-00be-remaining-cr-for-35-3-15-8-1.docx) and incorporate the text changes into the latest TGbe draft?

* ~~5105, 6136,~~ 6319, ~~6320,~~ 7609, 8349, 8350, ~~4836,~~ 4237, ~~7782, 5127~~, 5103, 6657, 7869
* 4268, 4733, 5131, 5354, 5442, 5835, 5942, 6022, 4367, 6214, 6389, 6976, 7583, 6215, 6590, 6591, 7776, ~~5362,~~ 6927,
* 7666, 5143, ~~6556,~~ 5241, 5242, 5965, 8319, 4191, 4192, 6357, 6358, 6978, 7774, ~~8184,~~ 8326, 5599, 6531,

Discussion: None.

Result: No objection.

1. [1575r](https://mentor.ieee.org/802.11/dcn/21/11-21-1575-00-00be-proposed-cr-for-clause-35-3-15-6-sync-ppdu-start-time.docx)1 CR for Clause 35.3.15.6. Sync PPDU start time Dmitry Akhmetov [21C-25’]

Discussion:

C: 4413 should be revised. 5897 did not reach consensus according to the result.

5897 is reassigned to Liangxiao.

**SP:** Do you agree to resolve the following CIDs listed in [11-21/1575r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1575-01-00be-proposed-cr-for-clause-35-3-15-6-sync-ppdu-start-time.docx) and incorporate the text changes into the latest TGbe draft?

* 4482, 4483, 6316, 6317, 6383, 6771, 6773, 7871, 8249, 8347, 4233, 4412, 4753, 7787, 8040, 8348, 4413, ~~5897,~~ 7608

Discussion: None.

Result: No objection.

1. [1277r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1277-01-00be-cc36-cr-for-d1-0-group-key-handshake-cids.docx) Group Key handshake CIDs Rojan Chitrakar [1C SP 5’]

**SP3:** Do you agree to resolve the following CIDs listed in [11-21/1277r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1277-01-00be-cc36-cr-for-d1-0-group-key-handshake-cids.docx) and incorporate the text changes into the latest TGbe draft?

* 6205

Discussion: None.

Result: No objection.

1. [0214r5](https://mentor.ieee.org/802.11/dcn/22/11-22-0214-04-00be-cc36-cr-emlsr.docx) CR EMLSR Minyoung Park [8C SP 5’]

Summary: resolution on deferred CIDs 4760,5668,6882,5612,5844,6551, 5650,7490

Discussion:

C: Definition part and general description are not same. EMLSR links and a set of enable links. Are they same?

**SP4:** Do you agree to resolve the following CIDs listed in [11-22/214r5](https://mentor.ieee.org/802.11/dcn/22/11-22-0214-05-00be-cc36-cr-emlsr.docx) and incorporate the text changes into the latest TGbe draft?

* 4760, 5668, 6882, 5612, 5844, 6551, 5650, 7490

Discussion: Some minor discussion.

Result: 36Y, 6N, 21A

1. [1184r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1184-03-00be-cc36-resolution-for-cids-related-to-mbssid-part-1.docx) Res. 4 CIDs related to MBSSID-Part 1 Abhishek Patil [1C SP 5’]

Discussion:

C: In the figure, Links should be AP (reporting or reported)?

A: Ok

C: Could you send me the visio file?

A: Ok

Abhi will share the updated visio file with Edward.

**SP5:** Do you agree to resolve the following CIDs listed in [11-21/1184r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1184-03-00be-cc36-resolution-for-cids-related-to-mbssid-part-1.docx) and incorporate the text changes into the latest TGbe draft?

* 5074

Discussion: None.

Result: No objection.

1. [382r0](https://mentor.ieee.org/802.11/dcn/22/11-22-0382-00-00be-cc36-cr-for-remaining-cids-in-subclause-9.docx) CR for remaining CIDs in subclause 9 Ming Gan [9C-15’]

Discussion:

C: There is a related other subclause related to AID (4004) for EHT STA/MLD.

A: Ok

C: that is a STA that is associated to non-EHT AP.

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

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