IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Minutes for TGbe MAC Ad-Hoc teleconferences in March and May 2020 | | | | |
| Date: 2021-01-21 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Liwen Chu | NXP |  |  |  |
| Jeongki Kim | LG Electronics |  |  |  |
|  |  |  |  |  |

Abstract

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

Revisions:

* Rev0: Added the minutes from the telephone conferences held on January 21, January 25, January 28, February 1, February 4, February 8.
* Rev1: Added the minutes from the telephone conferences held on February 22.
* Rev2: Added the minutes from the telephone conferences held on February 25.

**Thursday 21 January 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 10:05am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The Chair asked whether there is comment about agenda in 11-20/1917r10. The revisions of some contributions were updated per the request. The modified agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 1/21 | Adhikari, Shubhodeep | Broadcom Corporation |
| TGbe (MAC) | 1/21 | Ansley, Carol | IEEE member / Self Employed |
| TGbe (MAC) | 1/21 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 1/21 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 1/21 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 1/21 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 1/21 | Cariou, Laurent | Intel Corporation |
| TGbe (MAC) | 1/21 | Carney, William | Sony Corporation |
| TGbe (MAC) | 1/21 | Cheng, Paul | MediaTek Inc. |
| TGbe (MAC) | 1/21 | CHERIAN, GEORGE | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/21 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 1/21 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 1/21 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 1/21 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 1/21 | Fang, Yonggang | Self |
| TGbe (MAC) | 1/21 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 1/21 | Ghosh, Chittabrata | Intel Corporation |
| TGbe (MAC) | 1/21 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 1/21 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 1/21 | Han, Jonghun | SAMSUNG |
| TGbe (MAC) | 1/21 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 1/21 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 1/21 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Hong, Hanseul | WILUS Inc. |
| TGbe (MAC) | 1/21 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 1/21 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 1/21 | Kain, Carl | USDoT |
| TGbe (MAC) | 1/21 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | kamath, Manoj | Broadcom Corporation |
| TGbe (MAC) | 1/21 | Khan, Naseem | Leidos Engineering. LLC |
| TGbe (MAC) | 1/21 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 1/21 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 1/21 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 1/21 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 1/21 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 1/21 | Klein, Arik | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/21 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 1/21 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 1/21 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 1/21 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 1/21 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/21 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 1/21 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 1/21 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 1/21 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/21 | Lumbatis, Kurt | CommScope, Inc. |
| TGbe (MAC) | 1/21 | Martinez Vazquez, Marcos | MaxLinear Corp |
| TGbe (MAC) | 1/21 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 1/21 | McCann, Stephen | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 1/21 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 1/21 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/21 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 1/21 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 1/21 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 1/21 | Nguyen, An | DHS/CISA |
| TGbe (MAC) | 1/21 | Ouchi, Masatomo | Canon |
| TGbe (MAC) | 1/21 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 1/21 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 1/21 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 1/21 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/21 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | Rege, Kiran | Perspecta Labs |
| TGbe (MAC) | 1/21 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 1/21 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 1/21 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 1/21 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 1/21 | SURACI, FRANK | U.S. Department of Homeland Security |
| TGbe (MAC) | 1/21 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 1/21 | Verma, Sindhu | Broadcom Corporation |
| TGbe (MAC) | 1/21 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 1/21 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 1/21 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 1/21 | Wentink, Menzo | Qualcomm |
| TGbe (MAC) | 1/21 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 1/21 | Xiao, Bo | ZTE Corporation |
| TGbe (MAC) | 1/21 | Yang, Jay | Nokia |
| TGbe (MAC) | 1/21 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 1/21 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 1/21 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 1/21 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/21 | Zhou, Yifan | Huawei Technologies Co., Ltd |

**Submissions**

1. [1140r7](https://mentor.ieee.org/802.11/dcn/20/11-20-1140-07-00be-ecsa-for-multi-link-operation.pptx) eCSA for multi link operation Laurent Cariou [2 SPs]

Discussion:

C: Max Channel Switch Time element is optional in baseline. We should do same thing here.

A: we have condition here.

C: how about if any.

A: ”if any” may be issue.

C: Max Channel Switch Time element is for channel switch to radar channel.

C: that is your understanding.

SP5 (updated per the discussion)

* If an AP (AP1) of an AP MLD is switching from an initial operating channel/class to a target operating channel/class at a target switch time using (extended) channel switch announcement and includes in its beacons a Max Channel Switch Time element, and another AP (AP2) of the AP MLD receives a (re)association request to perform ML setup with AP1 as a requested link, then:
  + The other AP (AP2) shall include a Max Channel Switch Time element in the per-STA profile corresponding to AP1 in the Multi-link element included in the (re)association response frame it sends in response to indicate the time at which AP1 will start beaconing, if the (re)association frame is sent between the last beacon on the initial operating channel/class and the first beacon on the target operating channel/class
* Otherwise, the other AP (AP2) shall not include Max Channel Switch Time element or (Extended) Channel Switch Announcement element in (re)association response frames
* The timing fields in the (Extended) Channel Switch Announcement element and Max Channel Switch Time element (if present) are applied with reference to the most recent values for AP1.

32Y, 24N 34A.

1. [0689r4](https://mentor.ieee.org/802.11/dcn/20/11-20-0689-04-00be-single-sta-trigger.pptx) Single STA Trigger Young H. Kwon [1 SP]

Discussion:

C: it is questionable whether it is necessary to carry this information. Sometimes it can guarantee the same responding PPDU lengthes in some cases.

A: it is not good idea for responding side to guarantee the same responding PPDU length.

C: what is the requirement for AP side?

A: AP needs to do padding.

SP

* **SP(updated during the call): Do you support in R1 of TGbe that**
  + A non-AP STA can include an indication in a PPDU that solicits an AP to transmit a control response frame in an SU PPDU whose duration is indicated by the indication in a new A-ctrl subfield. The new A-ctrl subfield will be specifically designed to include that duration for the control response.
  + The SU PPDU can be carried in at least HE/EHT PPDU to meet the indicated duration

39Y, 10N, 46A

.

1. [1727r2](https://mentor.ieee.org/802.11/dcn/20/11-20-1727-02-00be-pdt-mac-mlo-6-3-x-nsep-priority-access.docx) pdt-mac-mlo-6-3-x nsep-priority-access Zhiqiang Han [SP]

Discussion:

C: the TBD in the note should be removed and use the reference of 35.9 NSEP priority access.

A: this is proposed by the reviewer since the mechanism is TBD in 35.9.

C: then you can remove the note.

C: we can keep the note and delete the TBD.

The SP is deferred

1. [0034r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0034-03-00be-pdt-mac-quality-of-service-for-latency-sensitive-traffic.docx) pdt-mac-quality-of-service-for-latency-sensitive-traffic Chunyu Hu [SP]

Discussion:

C: worst case of latency of several 10ms is defined. Do you need to clarify the jitter?

A: don’t want to do that to avoid comments. I can remove the latency requirement value.

C: add with certain reliablity after worst-case values.

A: ok.

C: QMF should be considered.

A: low latency already cover it.

SP

**Do you support to incorporate the page 3 of the proposed draft text in 11-21/34r4 into the latest version of 1be draft?**

61Y, 9N, 25A

1. [0081r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0081-00-00be-mlo-group-addressed-frame.docx) pdt-mlo-group addressed frame Ming Gan

Discussion:

C: all the text is AP behavior. The STA side motion is missing.

A: non-AP side can be in another subclause.

C: the second SP is not coverred appropriately.

A: can do offline discussion.

C: it might not be possible for AP to transmit all group-addressed frames immediately after DTIM Beacon because of medium busy.

A: this is baseline text.

C: will check it.

C: what does ”independently” mean?

A: it means that every link does its transmission without considering other link’s transmission.

C: It is not clear of ”one bit of partial virtual bitmap”.

A: The location of the bit is not decided. it is TBD.

C: should make it clear.

C: the important thing is how this works and the TBD. It seems not possible to add these bits in TIM.

A: there are some options.

C: I can’t imagine the options.

The SP was deferred

1. [0082r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0082-00-00be-pdt-mac-mlo-power-save-listen-interval.docx) pdt-mac-mlo-power save listen interval Ming Gan

Discussion:

C: I saw two documents related to the motions. I don’t know which documents will be used.

A: I uploaded the document earlier and the motions are run by me.

C: we find the bug about the motion that the BIs of different links are randomly selected. We prefer the issue to be resolved.

A: Are you saying that the BI of a link can be changed?

C: no.

The SP was deferred

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

The teleconference was adjourned at 12:00pm

**Monday 25 January 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 10:05am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The Chair asked whether there is comment about agenda in 11-20/1917r11. The revisions of some contributions were updated per the request. The modified agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| TGbe (MAC) | 1/25 | Ansley, Carol | IEEE member / Self Employed |
| TGbe (MAC) | 1/25 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 1/25 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 1/25 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 1/25 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 1/25 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 1/25 | Cariou, Laurent | Intel Corporation |
| TGbe (MAC) | 1/25 | CHAN, YEE | Facebook |
| TGbe (MAC) | 1/25 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/25 | Chu, Liwen | NXP Semiconductors |
| TGbe (MAC) | 1/25 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 1/25 | Das, Dibakar | Intel Corporation |
| TGbe (MAC) | 1/25 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 1/25 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 1/25 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 1/25 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 1/25 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 1/25 | Ghosh, Chittabrata | Intel Corporation |
| TGbe (MAC) | 1/25 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 1/25 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 1/25 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 1/25 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 1/25 | Hervieu, Lili | Cable Television Laboratories Inc. (CableLabs) |
| TGbe (MAC) | 1/25 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | Hong, Hanseul | WILUS Inc. |
| TGbe (MAC) | 1/25 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 1/25 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 1/25 | Inohiza, Hirohiko | Canon |
| TGbe (MAC) | 1/25 | Ji, Chenhe | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/25 | Kain, Carl | USDoT |
| TGbe (MAC) | 1/25 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | kamath, Manoj | Broadcom Corporation |
| TGbe (MAC) | 1/25 | Kandala, Srinivas | SAMSUNG |
| TGbe (MAC) | 1/25 | Kedem, Oren | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/25 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 1/25 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 1/25 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 1/25 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 1/25 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 1/25 | Klein, Arik | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/25 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 1/25 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 1/25 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 1/25 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 1/25 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 1/25 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 1/25 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/25 | Li, Yunbo | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 1/25 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 1/25 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 1/25 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 1/25 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/25 | Lumbatis, Kurt | CommScope, Inc. |
| TGbe (MAC) | 1/25 | Martinez Vazquez, Marcos | MaxLinear Corp |
| TGbe (MAC) | 1/25 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 1/25 | McCann, Stephen | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 1/25 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/25 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 1/25 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 1/25 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 1/25 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 1/25 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 1/25 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 1/25 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/25 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 1/25 | Reshef, Ehud | Intel Corporation |
| TGbe (MAC) | 1/25 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 1/25 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 1/25 | Sedin, Jonas | Ericsson AB |
| TGbe (MAC) | 1/25 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 1/25 | Shaari, Firas | Comcast |
| TGbe (MAC) | 1/25 | Solaija, Muhammad Sohaib | Istanbul Medipol University; Vestel |
| TGbe (MAC) | 1/25 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 1/25 | Tolpin, Alexander | Intel Corporation |
| TGbe (MAC) | 1/25 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 1/25 | Verma, Sindhu | Broadcom Corporation |
| TGbe (MAC) | 1/25 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 1/25 | Wang, Huizhao | Quantenna Communications, Inc. |
| TGbe (MAC) | 1/25 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 1/25 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 1/25 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 1/25 | Xiao, Bo | ZTE Corporation |
| TGbe (MAC) | 1/25 | Yang, Jay | Nokia |
| TGbe (MAC) | 1/25 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 1/25 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 1/25 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 1/25 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/25 | Zhou, Yifan | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 1/25 | Zuo, Xin | Tencent |

.

**Submissions**

1. [1693r1](https://mentor.ieee.org/802.11/dcn/20/11-20-1693-01-00be-tspec-lite.pptx) TSPEC-lite Duncan Ho [2 SPs]

Discussion for SP1:

C: Are you also run SP2?

A: yes.

C: Since SP2 says “as is” and SP1 gives a broader scope, SP2’s approval will add the restriction on top of SP1?

A: yes.

C: when A-Control is used, A-Control will override TSPEC?

A: we can discuss it in R2.

C: What is the motivation for short term traffic characteristic?

A: short term traffic may change.

C: is short term traffic characteristic provided in application layer?

A: will be discussed in R2.

C: Why do we need TSPEC? TWT element has no room for such parameters. Some simple way should be ok.

A: TSPEC can provide more information. Some fields in TSPEC will be reserved.

SP1:

* **Do you agree to add the following to 11be R1:**
  + An AP or non-AP MLD shall use the TSPEC IE (either “as is” or with modification) as part of the QoS signaling to define the application-session level (long-term) characteristics and QoS expectations of a traffic flow

Note 1: traffic characteristics refer to description of the traffic that can be extracted from applications/higher layers

Note 2: whether to carry QoS signaling for short term characteristics in an A-control variant is TBD for R2.

43Y, 22N, 32A

1. [902r4](https://mentor.ieee.org/802.11/dcn/20/11-20-0902-04-00be-group-addressed-frames-delivery-for-mlo-follow-up.pptx) Group addressed frames delivery for MLO follow up Ming Gan [2 SPs]

Discussion for SP2A:

C: this one is associated with the previous SP, right?

A: yes.

C: have some concern about the indication in SP1. SP1 is not harmful since it is only about the indication. But this SP is for non-AP MLD’s link switch that doesn’t work.

A: this SP is not for link switch. The non-AP MLD will go to the notified link.

C: many things need to be clarified, e.g. what happens if the frame’s CRC is wrong?

The author decided to run SP2 per the discussion

SP2

* Do you agree that in R1, if an indication of buffered group addressed frames about an AP in an AP MLD is received by a non-AP MLD, the STA in the non-AP MLD that is associated with that AP shall decode all successfully received group addressed Management frames following the baseline if it is in awake state

29Y, 37N, 33A

1. [1965r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1965-00-00be-pdt-mac-mlo-mandatory-optional.docx) PDT-MAC-MLO-mandatory-optional Laurent Cariou

Discussion:

C: first paragraph, what does the first sentence mean?

A: it is based on motion reference 1.

C: some non-AP EHT STA will not be part of non-AP MLD.

C: change “all pair” to “all pairs”.

A: ok.

C: question about soft AP MLD. It is better to add the description of normal AP MLD and soft AP MLD. WFA has the definition of soft AP MLD. It is better to refer to WFA’s definition.

A: although the definition of soft AP MLD wasn’t converged, the text reflects the passed motion.

The SP was deferred.

1. [0076r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0076-00-00be-pdt-tbd-mac-mlo-multi-link-setup-usage-and-rules-of-ml-ie.docx) MLO-multi-link-setup-usage-and-rules-of-ml-ie Insun Jang

Discussion:

C: sereval places mentioned ”by setting the Type subfield …”. You may remove it.

A: ok.

C: is there any place that mentions “the other fields in common info field are TBD”?

C: eMLSR, eMLMR subclause mentioned that the eMLSR/eMLMR capabilities will be in common info field.

C: subclause 9 should be changed accordingly. We don’t need to change here.

C: what is the value of link ID?

A: D0.3 mentioned that link ID is carried in RNR element of Beacon.

C: change “by setting the Complete Profile…” to “and shall set the Complete Profile…”

A: ok

SP (the updated text)

Do you support to incorporate the proposed text in 11-21/0076r1 into the latest version of TGbe Draft?

45Y, 1N, 34A

1. [0056r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0056-02-00be-mac-pdt-motion-146-sps-336-337.docx) Critical Updates (MBSSID case) Abhishek Patil

Discussion:

C: Capability field should be in Nontransmitted BSSID Profile.

A:no, Notransmitted BSSID Capability element should be in Nontransmitted BSSID Profile.

SP (the updated text)

Do you support to incorporate the proposed text in 11-21/0056r3 into the latest version of TGbe Draft?

.

46Y, 3N, 24A

1. [0055r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0055-00-00be-mac-pdt-motion-137-sp-244.docx) MLO Power-save (WNM Sleep) Abhishek Patil

Discussion:

C: P4, WNM Sleep Response frame, you can just simply add optional subelements.

A: I see what you are saying. That is another way. This is the cleaner way. I am fine with either way.

C: agree with previous commenter.

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

The teleconference was adjourned at 11:59am

**Thursday 28 January 2021, 07:00pm – 10:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 07:01pm EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The chair announced after 85minutes, technical contributions will be discussed.
6. The Chair asked whether there is comment about agenda in 11-20/1917r11. 1009 was deferred per the request. 1085 was added to today’s agenda. The revision numbers of several contributions were updated. The modified agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 1/28 | Aboulmagd, Osama | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 1/28 | Adachi, Tomoko | TOSHIBA Corporation |
| TGbe (MAC) | 1/28 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 1/28 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 1/28 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 1/28 | Carney, William | Sony Corporation |
| TGbe (MAC) | 1/28 | CHAN, YEE | Facebook |
| TGbe (MAC) | 1/28 | CHERIAN, GEORGE | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/28 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 1/28 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 1/28 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 1/28 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Ding, Baokun | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/28 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 1/28 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 1/28 | Fang, Yonggang | Self |
| TGbe (MAC) | 1/28 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 1/28 | Garg, Lalit | Broadcom Corporation |
| TGbe (MAC) | 1/28 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 1/28 | Haasz, Jodi | IEEE Standards Association (IEEE-SA) |
| TGbe (MAC) | 1/28 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 1/28 | Hamilton, Mark | Ruckus/CommScope |
| TGbe (MAC) | 1/28 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 1/28 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 1/28 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 1/28 | Ji, Chenhe | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/28 | Jones, Vincent Knowles IV | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Jung, hyojin | Hyundai Motor Company |
| TGbe (MAC) | 1/28 | Kain, Carl | USDoT |
| TGbe (MAC) | 1/28 | Kim, Jeongki | LG ELECTRONICS |
| TGbe (MAC) | 1/28 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 1/28 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 1/28 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 1/28 | Kim, Yongho | Korea National University of Transportation |
| TGbe (MAC) | 1/28 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 1/28 | Kneckt, Jarkko | Apple, Inc. |
| TGbe (MAC) | 1/28 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 1/28 | Kondo, Yoshihisa | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 1/28 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 1/28 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 1/28 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/28 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 1/28 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 1/28 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/28 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 1/28 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 1/28 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 1/28 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 1/28 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 1/28 | Ouchi, Masatomo | Canon |
| TGbe (MAC) | 1/28 | Palayur, Saju | Maxlinear Inc |
| TGbe (MAC) | 1/28 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 1/28 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 1/28 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 1/28 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 1/28 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 1/28 | Shaari, Firas | Comcast |
| TGbe (MAC) | 1/28 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 1/28 | Shen, Xiaoman | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 1/28 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 1/28 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 1/28 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 1/28 | Tsujimaru, Yuki | Canon Inc. |
| TGbe (MAC) | 1/28 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 1/28 | Wang, Hao | Tencent |
| TGbe (MAC) | 1/28 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 1/28 | Wu, Hao | XGIMI Technology Co.Ltd |
| TGbe (MAC) | 1/28 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 1/28 | Xiao, Bo | ZTE Corporation |
| TGbe (MAC) | 1/28 | Yang, Jay | Nokia |
| TGbe (MAC) | 1/28 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 1/28 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 1/28 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 1/28 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 1/28 | Zhou, Yifan | Huawei Technologies Co., Ltd |

.

**Submissions**

1. [902r5](https://mentor.ieee.org/802.11/dcn/20/11-20-0902-05-00be-group-addressed-frames-delivery-for-mlo-follow-up.pptx) Group addressed frames delivery for MLO follow up Ming Gan [1 SP]

Discussion for SP3:

C: it is not clear how this works?

A: the intention is that the additional bits will not contradict with the related bits of multiple BSSIDs.

C: the solution doesn’t address the whole scenarios.

C: this is hard to manage.

C: concern about “contiguous bits”.

C: different links may have different number of APs in multiple BSSID.

SP3 was deferred

SP2

* **Do you agree that in R1, if an indication of buffered group addressed frames about an AP in an AP MLD is received by a non-AP MLD, the STA in the non-AP MLD that is associated with that AP and stays awake to receive group addressed BUs shall elect to receive all group addressed Management frames**

56Y, 24N, 25A

1. [613r4](https://mentor.ieee.org/802.11/dcn/20/11-20-0613-04-00be-ap-assisted-non-str-behavior.pptx) AP assisted Non-STR behavior Ming Gan [1 SP]

Discussion for SP3:

C: Confused by second little round bullet. Let define the signal to carry the informaiton only. For the addtional information, I will not vote for it.

The SP was deferred.

1. [1085r5](https://mentor.ieee.org/802.11/dcn/20/11-20-0613-04-00be-ap-assisted-non-str-behavior.pptx) STR Capability signaling Dibakar Das [1 SP]

SP3:

**Do you agree to add the following:**

* **In R1, an MLMR non-AP MLD that has at least one NSTR pair of links shall include in the STA profiles of a basic ML element, a bitmap where each bit represents STR/NSTR capability for a pair of links containing this STA, otherwise it shall not include the bitmap?**
* **In R2, additional information that can determine STR/NSTR capability is optionally signaled.**

36Y, 27N, 34A

1. [0055r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0055-01-00be-mac-pdt-motion-137-sp-244.docx) MAC-PDT-Motion-137\_SP-244 Abhishek Patil [SP]

Dsicussion:

C: concern to use AP’s one link to carry the other link’s secure information.

A: I am following the bseline procedure. The informaiton will be transmitted through secure link.

C: the informaiton is transmitted in peer STAs, but not in two MLDs.

A: the PTK is established between two MLDs and the frame is transmitted by AP/STA affiliated with MLD.

C: I think the change is fine. The group keys have to be included and the method is reasonable.

SP:

Do you support to incorparate the proposed draft text in 11-21/0051r2 into the latest version of 11be draft?

44Y, 21N, 26A

1. [1667r2](https://mentor.ieee.org/802.11/dcn/20/11-20-1667-02-00be-pdt-mac-mlo-discovery-information-request.docx) MLO-Discovery-Information-Request Namyeong Kim

Dsicussion:

C: the TBD of whether complete or partial information isrequested is not neceaasry.

A: I would like add the critical informaiton request.

C: Agree with the previous comment. prefer option 2 since it is flexible and simple.

C: support option 2-1.

C: in favor option 1. Don’t think option 2 is simple. Would like to know the reason for option 2.

C: prefer option 2.STA MLD may know different informaiton of Pas.

SP 1:

Which options do you prefer to request partial information for other APs?

* Option 1 : The request of the *same* set of partial information which applies to all APs
* Option 2 : The request of the *different* set of paritial information for each AP individually (for option 2-1 and option 2-2)
  + NOTE: only one of option 2-1 and option 2-2 will be included in the spec text.
* Option 3: abstain

20 O1, 50 O2, 20 O3

1. [1554r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1554-04-00be-ml-reconfiguration.pptx) ML reconfiguration Payam Torab [Q&A+SP]

Dsicussion:

C: don’t like the SPs except the last one. At this stage, we shouldn’t add the new thing like these.

A: most people think the proposed SPs are related to the architecture.

C: how to do TID to link mapping after adding link?

A: TID to link remapping should be done. We will define the new rules for it.

C: agree with the concept. Don’t why we define new action frame. We can reuse Reassociation for such purpose.

A: the frame design can come later. The new defined frame can be encrypted.

C: in favor this presentaiton. Just want to mention that if an AP can be removed, there are different reasons to add an AP.

SP1: (updated per the discussion)

* **Do you agree to add to R1, a mechanism for a non-AP MLD to add or remove links to an associated AP MLD, subject to the following,**
  + The AP MLD may reject a request to add a link
  + The AP MLD shall not reject a request to remove a link

*Note: In case of adding a link, additional AP STAs within the AP MLD can be known prior to association (e.g., ML IE received from AP MLD during discovery), or can be added by the AP MLD post association through updated beacon contents or similar TBD procedure, to be specified as part of defining the mechanism.*

43Y, 30N, 18A

1. [1551r2](https://mentor.ieee.org/802.11/dcn/20/11-20-1551-02-00be-tid-to-link-mapping-negotiation.pptx) TID-to-Link-Mapping-Negotiation Guogang Huang

Discussion of SP 1:

C: what is disabling link set?

A: no TID maped to the link means link diabling.

C: the TID to link mapping detail is not defined. The disabling of link is the result of TID to link mapping.

C: Do you assume the the information asssit the disabling link is carried in the negotiation frame.

A: yes, it is possible.

C: it seems from concept point of view, this SP is similar to 1554.

A: yes.

C: AP may provide some guideline about disabling link.

The SP was deferred.

.

1. [1534r8](https://mentor.ieee.org/802.11/dcn/20/11-20-1534-08-00be-discussion-on-multi-link-setup.pptx) Discussion-on-multi-link-setup Guogang Huang

Discussion of SP 1:

C: what is the benifit of radio ID.

A: When an AP MLD recommands the preferred link, the radio ID is needed.

C: If three links share two radios, the proposed method may not work.

A: for your case, radio ID is not needed.

C: it is hard to pick one by one. For radio ID topic, if a MLD has one radio for all links, the radio ID is not required. Sometimes you may need it, e.g. one radio is shared by some links. The implementation is wired.

C: slide 7, 11be already defines the power management after multi-link setup. I don’t think slide 7 adds more value to the current agreement.

.no PS was run

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

The teleconference was adjourned at 09:57pm

**Monday 1 Feburary 2021, 07:00pm – 10:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 07:01pm EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The chair announced after 85minutes, technical contributions will be discussed.
6. The Chair asked whether there is comment about agenda in 11-20/1917r15. 1856, 1860, 1841 were deferred per the requests. The modified agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 2/1 | Adachi, Tomoko | TOSHIBA Corporation |
| TGbe (MAC) | 2/1 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 2/1 | Anwyl, Gary | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Au, Kwok Shum | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/1 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Bahn, Christy | IEEE STAFF |
| TGbe (MAC) | 2/1 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 2/1 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 2/1 | Cheng, Paul | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/1 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 2/1 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 2/1 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Ding, Baokun | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/1 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 2/1 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 2/1 | Fang, Yonggang | Self |
| TGbe (MAC) | 2/1 | feng, Shuling | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 2/1 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 2/1 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 2/1 | Hamilton, Mark | Ruckus/CommScope |
| TGbe (MAC) | 2/1 | Han, Jonghun | SAMSUNG |
| TGbe (MAC) | 2/1 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 2/1 | Hsieh, Hung-Tao | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 2/1 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 2/1 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Ji, Chenhe | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/1 | Jung, hyojin | Hyundai Motor Company |
| TGbe (MAC) | 2/1 | Kain, Carl | USDoT |
| TGbe (MAC) | 2/1 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbe (MAC) | 2/1 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 2/1 | Kim, Youhan | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 2/1 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 2/1 | Lansford, James | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/1 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 2/1 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 2/1 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 2/1 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/1 | Ma, Li | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/1 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 2/1 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 2/1 | Ouchi, Masatomo | Canon |
| TGbe (MAC) | 2/1 | Pare, Thomas | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Park, Eunsung | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 2/1 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/1 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 2/1 | Shaari, Firas | Comcast |
| TGbe (MAC) | 2/1 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 2/1 | Sun, Bo | ZTE Corporation |
| TGbe (MAC) | 2/1 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 2/1 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 2/1 | Tanaka, Yusuke | Sony Corporation |
| TGbe (MAC) | 2/1 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 2/1 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 2/1 | Wu, Hao | XGIMI Technology Co.Ltd |
| TGbe (MAC) | 2/1 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 2/1 | Xiao, Bo | ZTE Corporation |
| TGbe (MAC) | 2/1 | Xin, Yan | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 2/1 | Yang, Jay | Nokia |
| TGbe (MAC) | 2/1 | Yang, Steve TS | MediaTek Inc. |
| TGbe (MAC) | 2/1 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 2/1 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 2/1 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 2/1 | Yoon, Jeonghwan | LG ELECTRONICS |
| TGbe (MAC) | 2/1 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/1 | Zhou, Yifan | Huawei Technologies Co., Ltd |

**Submissions**

1. [1651r7](https://mentor.ieee.org/802.11/dcn/20/11-20-1651-06-00be-pdt-tbds-mac-mlo-discovery-discovery-procedures-including-probing-and-rnr.docx) Discovery procedures including probing and RNR Laurent Cariou [SP]

Discussion for SP3:

C: will HE capabilities etc. be in Probe Response?

A: they will be included in Probe Response, but may not incldued in Probe Request.

C: what about other issues?

A: all the other issues were accepted.

C: “shall not include or shall not be able to include” is not clear.

A: outside of active scaaning may include.

C: two cases of active scanning and outside of active scaaning should be separately described.

SP:

Do you agree to modify draft 0.3 to add the changes proposed in document 20/1651r8 and marked as Issue 4?

47Y, 4N, 38A

1. [113r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0113-01-00be-pdt-fix-the-tbds-in-association-and-reassociation-primitives.docx) Fix the TBDs in Association and Reassociation primitives Zhiqiang Han

Discussion for SP3:

C: In confirm primitive, the presence of the element should also be based on the condition that the element is present in the related frame.

A: the text is copied from 11ax draft.

SP

Do you support to incorporate the proposed draft text in 11-21/113r1 into the latest version of TGbe Draft?

42Y, 3N 33A

1. [132r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0132-00-00be-pdt-mac-mlo-blindness.docx) MAC MLO blindness Dibakar Das

Discussion for SP3:

C: performing CCA is always required. The ”shall” in last paragraph is not needed.

C: NAVSyncDelayTimer is set with two methods. Have some concern about AP’s setting, e.g. setting it to 0.

A: agree in some sense. However if OBSS is ignored, AP should have some flaxibility.

C: similar concern with revious comment.

The SP was deferred.

1. [154r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0154-00-00be-pdt-mac-single-radio-and-multi-radio-mld-indication.docx) MAC single radio and multi-radio MLD indication Yunbo Li

Discussion for SP3:

C: the text should be in subclause 9.

C: you need to define the behavior in this suclause. The descrptive part should be in clause 9.

The SP was deferred.

1. [132r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0132-00-00be-pdt-mac-mlo-blindness.docx) MAC MLO blindness Dibakar Das

SP:

Do you support to incorporate the proposed draft text in 11-21/0132r3 into the latest revision of Tgbe draft?

45Y, 7N, 33A

1. [1124r1](https://mentor.ieee.org/802.11/dcn/20/11-20-1124-01-00be-ml-element-design.pptx) ML element design Ming Gan

Discussion:

C: slide 8, common info already have MLD MAC address. The address can be used.

A: we don’t know which one is for reporting AP.

C: slide 7, don’t know whether we need 2 and 3 bullet.

C: don’t think 3rd bullet in slide 7 is useful.

SP was deferred.

1. [1737r3](https://mentor.ieee.org/802.11/dcn/20/11-20-1737-03-00be-solicited-method-for-critical-update-in-multi-link.pptx) Solicited method for critical update in multi-link Namyeong Kim

Discussion:

C: slide 10, why do you need critical update request?

A: If a STA MLD wants to know all the cirtical updates, the change seqnence is not needed.

C: there are different types of information requesting. This can different delta differentce and all the ciritical update information.

C: second option is overdesigned.

C: we shoudl simplify the protocal.

The SP was deferred.

1. [1738r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1738-00-00be-signaling-of-beacon-interval-for-ap-mld.pptx) Signaling of Beacon Interval for AP MLD Insun Jang

Discussion:

C: prefer in Per STA Profile.

A: will think about it.

C: similar comment as previous comment.

C: what do we gain if we carry BI in Beacon.

A: non-AP MLD needs to acquire the BIs of other APs of AP MLD.

C: If MLD Probe Request is mandatory required, the BIs of other APs are not required, right?

A: yes.

C: what is the benifit to have different BIs for different APs.

A: I didn’t talk about it.

The SP was deferred.

1. [1108r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1108-00-00be-mlo-probe-mechanism.pptx) MLO-Probe-Mechanism Ming Gan

Discussion:

C: slide 7, RA is AP2 addr. This require different address filtering at AP since AP2’s probe is sent to AP1.

A: yes, the address filtering needs to be changed.

C: this is already allowed.

A: it is allowed for 6GHz band only. Can discuss offline.

C: we need to support MLD Probe Request. Do you propose another mechanism?

A: the similar mechanism is already in the spec.

C: how to set the TA of probe response when the Probe Response is sent by AP1 with AP2’s information?

A: it depends on whether AP1 supports multiple BSSID. We can discuss it offline.

The SP was deferred.

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

The teleconference was adjourned at 09:56pm

**Thursday 04 Feburary 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 10:02am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The Chair asked whether there is comment about agenda in 11-20/1917r13. 1693, 1350 was deferred per the request. 1046 was added to the agenda per the request. 1670 was deferred. The status of 1691 was changed to “presented”. 1670 was deferred. The modified agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 2/4 | Adhikari, Shubhodeep | Broadcom Corporation |
| TGbe (MAC) | 2/4 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 2/4 | Ansley, Carol | IEEE member / Self Employed |
| TGbe (MAC) | 2/4 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 2/4 | Bahn, Christy | IEEE STAFF |
| TGbe (MAC) | 2/4 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 2/4 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 2/4 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 2/4 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 2/4 | Carney, William | Sony Corporation |
| TGbe (MAC) | 2/4 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/4 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 2/4 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 2/4 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 2/4 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 2/4 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 2/4 | Haider, Muhammad Kumail | Facebook |
| TGbe (MAC) | 2/4 | Han, Jonghun | SAMSUNG |
| TGbe (MAC) | 2/4 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 2/4 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 2/4 | Hervieu, Lili | Cable Television Laboratories Inc. (CableLabs) |
| TGbe (MAC) | 2/4 | Hong, Hanseul | WILUS Inc. |
| TGbe (MAC) | 2/4 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 2/4 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 2/4 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 2/4 | Kain, Carl | USDoT |
| TGbe (MAC) | 2/4 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 2/4 | kamath, Manoj | Broadcom Corporation |
| TGbe (MAC) | 2/4 | Kedem, Oren | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/4 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 2/4 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 2/4 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 2/4 | Kim, Youn-Kwan | Sync Techno |
| TGbe (MAC) | 2/4 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 2/4 | Klein, Arik | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/4 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 2/4 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 2/4 | Lee, Nancy | Signify |
| TGbe (MAC) | 2/4 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 2/4 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 2/4 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 2/4 | Loginov, Vyacheslav | IITP RAS |
| TGbe (MAC) | 2/4 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 2/4 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 2/4 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/4 | Martinez Vazquez, Marcos | MaxLinear Corp |
| TGbe (MAC) | 2/4 | McCann, Stephen | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/4 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/4 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 2/4 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 2/4 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 2/4 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 2/4 | Nguyen, An | DHS/CISA |
| TGbe (MAC) | 2/4 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 2/4 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 2/4 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 2/4 | Petrick, Albert | InterDigital, Inc. |
| TGbe (MAC) | 2/4 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/4 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 2/4 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 2/4 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 2/4 | Salman, Hanadi | Istanbul Medipol University; VESTEL |
| TGbe (MAC) | 2/4 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 2/4 | Shen, Xiaoman | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/4 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 2/4 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 2/4 | Tsujimaru, Yuki | Canon Inc. |
| TGbe (MAC) | 2/4 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 2/4 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 2/4 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 2/4 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 2/4 | Wang, Qi | Apple, Inc. |
| TGbe (MAC) | 2/4 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 2/4 | Xiao, Bo | ZTE Corporation |
| TGbe (MAC) | 2/4 | Yang, Bo | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/4 | Yang, Jay | Nokia |
| TGbe (MAC) | 2/4 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 2/4 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 2/4 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 2/4 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/4 | Zuo, Xin | Tencent |

.

**Submissions**

1. [1693r1](https://mentor.ieee.org/802.11/dcn/20/11-20-1693-01-00be-tspec-lite.pptx) TSPEC-lite Duncan Ho [2 SPs]

Discussion for SP3:

C: restricted TWT is for low latency traffic. Wondering what is the relationship between restricted TWT and P2P

A: restricted TWT is still for low latency traffic. this SP is to say P2P for low latency traffic.

C: do you think it makes sense to clarify P2P being for low latency traffic?

A: add a note to clarify it.

C: you may clarify that if the P2P schedule contradict with AP’s schedule, P2P schedule can still do its own schedule.

A: P2P can do its own schedule.

C: you may add a note to clarify it.

A: P2P schedule is out the scope of 11be.

SP3 (updatd SP per discussion)

* **Do you agree to add to the TGbe (in R1):**
  + Restricted TWT schedule may be announced by the AP for peer-to-peer communication.
    - Note: it’s still for low latency traffic.

50Y, 20N, 29A

1. [1727r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1727-04-00be-pdt-mac-mlo-6-3-x-nsep-priority-access.docx) pdt-mac-mlo-6-3-x nsep-priority-access Zhiqiang Han [SP]

Discussion:

C: is it STA level instead of MLD level?

A: MLD case is TBD in related subclause of clause 35. So, I use STA here.

C: do you need to restrict the feature to EHT STA?

A: STA is used in related subclause of clause 35.

C: clause 35 is for EHT feature.

A: do you suggest to mention EHT STA here?

C: it should be fine since you refer to clause 35 here.

SP

Do you support to incorporate the proposed draft text in 11-20/1727r4 into the latest version of TGbe Draft?

47Y, 2N, 40A

1. [1667r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1667-03-00be-pdt-mac-mlo-discovery-information-request.docx) MLO-Discovery-Information-Request Namyeong Kim

Discussion SP 1-1:

C: the agreement we have is that inherit rule is for complete information. We should not use it here. Option 2-1 is preferred. Complete indication shouldn’t be used here.

A: if option 2-1 is selected, the Complete indication related text can be removed.

C: prefer option 2-1.

C: let keep it simple. Option 2-1 should be used.

C: agree with the analysis in the document and option 2-2 is better.

SP1-1:

Which options do you prefer to request partial information for other APs? (only one of options will be included in the spec text)

* Option 2-1 : non-inheritance rule based approach
* Option 2-2 : inheritance rule based approach
* Abstain

27Option1, 35Option2, 28Abstain

SP 2

Do you support the inclusion of the text contained on doc 11-20-1667r5 to latest version for 802.11 Tgbe draft?

46Y, 13N, 22A

1. [1124r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1124-01-00be-ml-element-design.pptx) ML element design Ming Gan Q&A+SP

Discussion for SP1:

C: why do you need link ID here?

A: for transmitting AP, it is TBD.

C: Is link ID and change sequence is one by one mapping?

A: change sequence doesn’t have one by one mapping.

SP 1

* **Do you agree to add Link ID and Change Sequence subfields for the transmitting AP in the common part of an ML element, and a control field indicating the presence or not of these fields in R1.**

Approved with unanimous consent

Discussion for SP2:

C: need more time to check this SP.

SP was deferred.

1. [1890r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1890-00-00be-reconsideration-on-sta-mac-address-of-non-ap-mld.pptx) Reconsideration on STA MAC Address of Non-AP MLD Guogang Huang

Discussion:

C: HPE only applies to data frame. The reason is that if MLD is used for management frame, there will be security problem: Tx addr and Rx addr are not protected.

A: we can discuss it more offline.

C: different MAC address is easy for trouble shooting.

C: agree with the commenter.

C: this proposal can simplify the implementation. For the security issue, the link ID can be added to the unicast management frame.

SP is deferred

1. [1892r0](https://mentor.ieee.org/802.11/dcn/20/11-20-1892-00-00be-estimation-of-link-reachability.pptx) Estimation of link reachability Guogang Huang

Discussion:

C: several months back, have similar contribution. This proposal is from STA MLD side. The information is also useful from AP MLD side.

A: my contribution focus on power save.

C: if a link is not reachable, why do you do association in the link?

A: this is for mobile use case.

C: this is important area. Not clear whether antenna gain is needed. May present it in joint meeting.

A: will consider it.

C: antenna gain is considered as path loss.

The chair asked wheterhe there are any other business. C: Maybe you can run one SP. The chair asked whether anyone want to run SP within 7 minutes. No repsponse.

The teleconference was adjourned at 11:54am

**Monday 08 Feburary 2021, 10:00am – 12:00pm ET (TGbe joint ad hoc conference call)**

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 10:02am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The Chair asked whether there is comment about agenda in 11-20/1917r21. Th revision numbers of some presentation were updated. The modified agenda was approved.
6. Comment assignment review:

The MAC ahhoc chair went through 53 unassigned CIDs

The TG chair announced that document 218 will be uploaded after addressing copyright issue. POC should review the document to address the related comments in 218.

Q: it is better for Mark to provide some rational for 218.

C: agreed.

Q: are you saying that by the end of today we need to respond for the volunteer?

C: POC needs review the document and do the coordination.

Q: it seems my comments are not listed.

C: will check with WG.

Some CIDs were taken by the members. The chair annoucned for the unassigned comments, members can contact Edward to take them.

.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 2/8 | Aboulmagd, Osama | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/8 | Adhikari, Shubhodeep | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Akhmetov, Dmitry | Intel Corporation |
| TGbe (MAC) | 2/8 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 2/8 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 2/8 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Boldy, David | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 2/8 | Bredewoud, Albert | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Carney, William | Sony Corporation |
| TGbe (MAC) | 2/8 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/8 | CHUN, JINYOUNG | LG ELECTRONICS |
| TGbe (MAC) | 2/8 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 2/8 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 2/8 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 2/8 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 2/8 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Fang, Yonggang | Self |
| TGbe (MAC) | 2/8 | Fischer, Matthew | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Garg, Lalit | Broadcom Corporation |
| TGbe (MAC) | 2/8 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 2/8 | GUIGNARD, Romain | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Guo, Yuchen | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 2/8 | Han, Jonghun | SAMSUNG |
| TGbe (MAC) | 2/8 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 2/8 | Handte, Thomas | Sony Corporation |
| TGbe (MAC) | 2/8 | Ho, Duncan | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Hong, Hanseul | WILUS Inc. |
| TGbe (MAC) | 2/8 | Hu, Chunyu | Facebook |
| TGbe (MAC) | 2/8 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 2/8 | Inohiza, Hirohiko | Canon |
| TGbe (MAC) | 2/8 | Jang, Insun | LG ELECTRONICS |
| TGbe (MAC) | 2/8 | Kain, Carl | USDoT |
| TGbe (MAC) | 2/8 | Kakani, Naveen | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 2/8 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 2/8 | Kim, Sanghyun | WILUS Inc |
| TGbe (MAC) | 2/8 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 2/8 | Klein, Arik | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/8 | Ko, Geonjung | WILUS Inc. |
| TGbe (MAC) | 2/8 | Kureev, Aleksey | IITP RAS |
| TGbe (MAC) | 2/8 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 2/8 | Lalam, Massinissa | SAGEMCOM BROADBAND SAS |
| TGbe (MAC) | 2/8 | Lee, Nancy | Signify |
| TGbe (MAC) | 2/8 | Levitsky, Ilya | IITP RAS |
| TGbe (MAC) | 2/8 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/8 | Loginov, Vyacheslav | IITP RAS |
| TGbe (MAC) | 2/8 | Lorgeoux, Mikael | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 2/8 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 2/8 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/8 | Martinez Vazquez, Marcos | MaxLinear Corp |
| TGbe (MAC) | 2/8 | Max, Sebastian | Ericsson AB |
| TGbe (MAC) | 2/8 | McCann, Stephen | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/8 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 2/8 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/8 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 2/8 | Naribole, Sharan | SAMSUNG |
| TGbe (MAC) | 2/8 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 2/8 | Ozbakis, Basak | VESTEL |
| TGbe (MAC) | 2/8 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 2/8 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/8 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 2/8 | Sevin, Julien | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 2/8 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 2/8 | Tanaka, Yusuke | Sony Corporation |
| TGbe (MAC) | 2/8 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 2/8 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 2/8 | Verma, Sindhu | Broadcom Corporation |
| TGbe (MAC) | 2/8 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 2/8 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 2/8 | Wentink, Menzo | Qualcomm Incorporated |
| TGbe (MAC) | 2/8 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 2/8 | Yang, Jay | Nokia |
| TGbe (MAC) | 2/8 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 2/8 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 2/8 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/8 | Zhou, Yifan | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 2/8 | Zuo, Xin | Tencent |
| TGbe (MAC) | 2/8 | Gaurav Patwardhan | Hewlett Packard Enterprise |

**Submissions**

1. [443r3](https://mentor.ieee.org/802.11/dcn/20/11-20-0443-03-00be-mla-ssid-handling.pptx) MLA: SSID Handling Duncan Ho [1 SP]

Discussion of SP1.

C: single PTK means same SSID for all links. It seems solution 2 is not possible.

A: SP1 focus on option 1.

C: for option 1, for AP MLD device, it can have many networks.

A: yes.

C: concern on SSID concept. There is no clear answer about how MLD works about ESS etc. Don’t the real outcome of the SP.

A: SP 1 mentioned that MLD is able to use one SSSID in all its links.

SP (updated per feedback):

* **Do you agree to the following for 11be R1?**
  + The 11be spec shall support the following:
    - An AP MLD shall be able to set the SSID of each AP to be the same value that is transmitted by each AP affiliated with the AP MLD in its Beacon and Probe Response frame

Note 1: It is TBD whether each AP affiliated with the AP MLD can also have a separate SSID for its BSS

Note 2: The container for signaling SSID for an AP MLD is TBD

43Y, 21N, 32A

1. [613r6](https://mentor.ieee.org/802.11/dcn/20/11-20-0613-05-00be-ap-assisted-non-str-behavior.pptx) AP assisted Non-STR behavior Ming Gan [2 SPs]

SP1discusison:

C: I assume that the SP is not for SFD. You want to add it to be draft.

A: will update the SP accordingly.

C: for 3rd subbullet, after receiving trigger, which PPDU will be sent?

A: open to it.

C: Agree with the comment in chat window. Another question how long STA2 will wait for the Trigger?

A: it can send it as the indication.

SP1 (updated per the discussion)

* **Do you agree to add the following text in R1: If a STA (STA-2) of a non-STR non-AP MLD experiences a loss of medium synchronization due to transmission by another STA (STA-1) within the same MLD) and starts a MediumSyncDelay timer, then while the MediumSyncDelay timer of  STA-2 is running:** 
  + The STA may attempt to initiate up to MSD\_TXOP\_MAX TxOPs using EDCA. The STA is only allowed to attempt to initiate up to number of TxOPs assigned by the AP (at least 1) and shall attempt to initiate that TxOP with the transmission of an RTS frame using regular EDCA backoff and baseline CCA but a TBD ED threshold value
    - The value of MSD\_TXOP\_MAX is assigned by the AP and shall be at least 1.
    - TXOP attempts shall begin with an RTS frame
    - If the channel was busy immediately after the blind period, additional TBD rules to transmit the RTS may apply.
  + A special ED threshold shall be used by the STA. The value of this ED threshold is TBD
    - The TBD ED threshold value has a default value specified in the spec (e.g., -62dBm) but can also be assigned by the AP MLD within a limited range such as between -82dBm and -62dBm
  + If  the PPDU transmitted by STA 1 carries a signal (Signaling is TBD) which indicates that STA 2  intends to send UL frame after transmission from STA-1 then another AP (AP 2) of the same AP MLD should send a Trigger frame to STA-2 soliciting UL PPDU if the channel is idle and the AP2 does not have frame exchange already scheduled with another STA (STA-2 is associated with AP-2)
* **Note:** 
  + If either the intra-BSS NAV or the inter-BSS NAV is non-zero in STA-2 at the end of transmission of STA-1, STA-2 does not transmit any PPDU using EDCA until the NAV expires.

If either the intra-BSS NAV or the inter-BSS NAV is non-zero in STA-2 at the end of transmission of STA-1, there could be further TBD conditions and requirements to expire the MediumSyncDelay timer

58Y, 20N, 27A

1. [0055r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0055-03-00be-mac-pdt-motion-137-sp-244.docx) MAC-PDT-Motion-137\_SP-244 Abhishek Patil [SP]

SP:

Do you support the inclusion of the text on doc 11-21/55r4 to the latest version of Tgbe draft?

Approved with unanimous consent.

1. [87r2](https://mentor.ieee.org/802.11/dcn/21/11-21-0087-02-00be-pdt-mac-triggered-su.docx) MAC-Triggered SU Dibakar Das

Discussion:

C: Are you thinking SIFS for multiple frame exchanges?

A: yes.

C: more thought may be needed for follow the rules in 26.2.6.

A: ok.

C: change ”can transmit” to ”may transmit”

A: ok.

C: what do you mean any other STA? Is another AP possible.

A: it doesn’t limit to TDLS.

C: you should make it clear that the Trigger has one User Info field.

A: The Trigger may have special User Info field.

SP was derferred.

The chair asked wheterhe there are any other business. No repsponse.

The teleconference was adjourned at 11:59am

**Monday 22 February 2021, 10:00am – 12:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 10:02am EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The Chair asked whether there is comment about agenda in 11-20/1917r25. No comments were raised. The agenda was approved.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbe (MAC) | 2/22 | Abouelseoud, Mohamed | Sony Corporation |
| TGbe (MAC) | 2/22 | Adhikari, Shubhodeep | Broadcom Corporation |
| TGbe (MAC) | 2/22 | Asterjadhi, Alfred | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | Au, Kwok Shum | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/22 | Baek, SunHee | LG ELECTRONICS |
| TGbe (MAC) | 2/22 | Bahn, Christy | IEEE STAFF |
| TGbe (MAC) | 2/22 | Bankov, Dmitry | IITP RAS |
| TGbe (MAC) | 2/22 | baron, stephane | Canon Research Centre France |
| TGbe (MAC) | 2/22 | Bravo, Daniel | Intel Corporation |
| TGbe (MAC) | 2/22 | Carney, William | Sony Corporation |
| TGbe (MAC) | 2/22 | Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/22 | Coffey, John | Realtek Semiconductor Corp. |
| TGbe (MAC) | 2/22 | Das, Dibakar | Intel Corporation |
| TGbe (MAC) | 2/22 | Das, Subir | Perspecta Labs Inc. |
| TGbe (MAC) | 2/22 | Derham, Thomas | Broadcom Corporation |
| TGbe (MAC) | 2/22 | de Vegt, Rolf | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | Ding, Baokun | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/22 | Dong, Xiandong | Xiaomi Inc. |
| TGbe (MAC) | 2/22 | Erceg, Vinko | Broadcom Corporation |
| TGbe (MAC) | 2/22 | Gu, Xiangxin | Unisoc |
| TGbe (MAC) | 2/22 | Han, Zhiqiang | ZTE Corporation |
| TGbe (MAC) | 2/22 | Hervieu, Lili | Cable Television Laboratories Inc. (CableLabs) |
| TGbe (MAC) | 2/22 | Huang, Po-Kai | Intel Corporation |
| TGbe (MAC) | 2/22 | Jamalabdollahi, Mohsen | Cisco Systems, Inc. |
| TGbe (MAC) | 2/22 | Kain, Carl | USDoT |
| TGbe (MAC) | 2/22 | kamath, Manoj | Broadcom Corporation |
| TGbe (MAC) | 2/22 | Kandala, Srinivas | SAMSUNG |
| TGbe (MAC) | 2/22 | Kedem, Oren | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/22 | Khorov, Evgeny | IITP RAS |
| TGbe (MAC) | 2/22 | kim, namyeong | LG ELECTRONICS |
| TGbe (MAC) | 2/22 | Kim, Sang Gook | LG ELECTRONICS |
| TGbe (MAC) | 2/22 | Kishida, Akira | Nippon Telegraph and Telephone Corporation (NTT) |
| TGbe (MAC) | 2/22 | Klein, Arik | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/22 | Kwon, Young Hoon | NXP Semiconductors |
| TGbe (MAC) | 2/22 | Lee, Nancy | Signify |
| TGbe (MAC) | 2/22 | Levy, Joseph | InterDigital, Inc. |
| TGbe (MAC) | 2/22 | Li, Yiqing | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/22 | Liu, Yong | Apple, Inc. |
| TGbe (MAC) | 2/22 | Loginov, Vyacheslav | IITP RAS |
| TGbe (MAC) | 2/22 | Lou, Hanqing | InterDigital, Inc. |
| TGbe (MAC) | 2/22 | Lu, kaiying | MediaTek Inc. |
| TGbe (MAC) | 2/22 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/22 | McCann, Stephen | Huawei Technologies Co.,  Ltd |
| TGbe (MAC) | 2/22 | Monajemi, Pooya | Cisco Systems, Inc. |
| TGbe (MAC) | 2/22 | Montemurro, Michael | Huawei Technologies Co. Ltd |
| TGbe (MAC) | 2/22 | Naik, Gaurang | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | NANDAGOPALAN, SAI SHANKAR | Cypress Semiconductor Corporation |
| TGbe (MAC) | 2/22 | Nezou, Patrice | Canon Research Centre France |
| TGbe (MAC) | 2/22 | Ng, Boon Loong | Samsung Research America |
| TGbe (MAC) | 2/22 | Park, Minyoung | Intel Corporation |
| TGbe (MAC) | 2/22 | Patil, Abhishek | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | Patwardhan, Gaurav | Hewlett Packard Enterprise |
| TGbe (MAC) | 2/22 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbe (MAC) | 2/22 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbe (MAC) | 2/22 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
| TGbe (MAC) | 2/22 | Sandhu, Shivraj | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | Shafin, Rubayet | Samsung Research America |
| TGbe (MAC) | 2/22 | Sun, Li-Hsiang | Sony Corporation |
| TGbe (MAC) | 2/22 | Sun, Yanjun | Qualcomm Incorporated |
| TGbe (MAC) | 2/22 | Torab Jahromi, Payam | Facebook |
| TGbe (MAC) | 2/22 | Verenzuela, Daniel | Sony Corporation |
| TGbe (MAC) | 2/22 | Verma, Sindhu | Broadcom Corporation |
| TGbe (MAC) | 2/22 | VIGER, Pascal | Canon Research Centre France |
| TGbe (MAC) | 2/22 | Wang, Chao Chun | MediaTek Inc. |
| TGbe (MAC) | 2/22 | Wang, Lei | Futurewei Technologies |
| TGbe (MAC) | 2/22 | Wullert, John | Perspecta Labs |
| TGbe (MAC) | 2/22 | Yang, Jay | Nokia |
| TGbe (MAC) | 2/22 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbe (MAC) | 2/22 | Yee, James | MediaTek Inc. |
| TGbe (MAC) | 2/22 | yi, yongjiang | Futurewei Technologies |
| TGbe (MAC) | 2/22 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbe (MAC) | 2/22 | Zhou, Yifan | Huawei Technologies Co., Ltd |
| TGbe (MAC) | 2/22 | Zuo, Xin | Tencent |

**Submissions**

1. [1693r4](https://mentor.ieee.org/802.11/dcn/20/11-20-1693-04-00be-tspec-lite.pptx) TSPEC-lite Duncan Ho [4 SP]

Discussion of SP1.

C: do you assume that the updaated TSPEC is one way to provide traffic characteristic?

A: we think at least in R1 TSPEC is one way to define the traffic characteristic. In R2 the other methods can be discussed.

C: the concern is ”shall” in SP.

A: will change the SP text to address it.

C: TSPEC was introduced 10 years ago. TSPEC is not widely used.

A: the traffic chracteristic doesn’t change. We tthink many fields in TSPEC can be used in 11be. Other fields can be reserved. The other methods, e.g. HE Control can be discussed later.

C: verify with you what is your intention about DL and UL.

A: TSPEC can be used for both UL nd DL.

C: when TSPEC is specified, is TSPEC related to TC or TID?

A: SP2 will address it.

C: is mapping first or TWT establishment first?

A: TWT setup and TSPEC can be done together, or after one is done another one is done right after.

SP (updated per the discussion)

* **Do you agree to add the following to 11be R1:**
  + An AP or non-AP MLD shall support the use of a variant of the TSPEC IE as part of the QoS signaling to define the application-session level characteristics and QoS expectations of a traffic flow

Note 1: traffic characteristics refers to description of the traffic that can be extracted from applications/higher layers

43Y, 17N, 30A

1. [1067r8](https://mentor.ieee.org/802.11/dcn/20/11-20-1067-08-00be-traffic-indication-of-latency-sensitive-application.pptx) Traffic indication of latency sensitive application Frank Hsu [1 SP]

The SP was deferred.

1. [290r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0290-00-00be-editorial-fixes-to-subclause-35-3-4-3.docx) Editorial fixes to subclause 35.3.4.3 Edward Au

SP:

Is any onjection to apporve the proposed change in 290?

Approved with unanimous consent

1. [087r3](https://mentor.ieee.org/802.11/dcn/21/11-21-0087-03-00be-pdt-mac-triggered-su.docx) MAC-Triggered SU Dibakar Das [SP]

SP discussion:

C: you have several TBDs. Can we remove the TBDs?

A: we need to discuss the TBDs later, e.g. two modes.

C: if the TXOP is reserved for P2P, the CTS is not needed.

A: we are trying to capture the motion.

C: some members mentioned that the soliciting frame is the updated MU-RTS. The responding rule can also be updated.

A: by default, CTS is needed. The members can submit new contribution.

SP

**Do you support to incorporate the proposed text in 11-21/87r3 into the latest revision of TGbe Draft?**

43Y, 19N, 22A

1. [160r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0160-01-00be-pdt-mac-mlo-emlsr-tbds.docx) MLO-eMLSR-TBDs Duncan Ho

SP discussion:

C: BSRP Trigger is not in line with low cost radio.

A: ”shall” is ready in he draft. This contribution just remove the TBD.

C: BSRP can address some issues with MU-RTS. The cost should not be an issue.

C: agree with the previous commneter.

C: if you want, BSRP can be transmitted after MU-RTS.

SP

Do you support to incorporate the proposed text in 11-21/60r1 into the latest revision of TGbe Draft?

34Y, 12N, 34A

1. [221r1](https://mentor.ieee.org/802.11/dcn/21/11-21-0221-01-00be-pdt-mac-mlo-nstr-blindness-tbd.docx) MAC-MLO-NSTR-blindness-TBD Dibakar Das

discussion:

C: what do you mean by limited range?

A: it means to select one value from the range.

C: how does AP knows that the STA starts the medium delay timer?

A: some signaling will be defined.

C: the value of ED for long time is not good.

A: what is the reason to restricting to use RTS?

C: RTS is shorter.

C: Is PS-Poll or Qos Null allowed?

C: RTS/CTS can be used to protect the TXOP.

C: what does new signal means?

A: it is TBD.

C: has some concern that an AP can set ED level, e.g. AP doesn’t know the hidden node of STA side.

The SP was deferred.

1. [142r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0142-01-00be-pdt-mac-restricted-twt.docx) PDT-MAC-Restricted-TWT Chunyu Hu

discussion:

C: 35.3.3, first TBD Probe Response is not clear.

A: add the clarification that TBD is about individual/Broadcast.

C: How does EHT STA ignore and not ignore Quiet element?

A: It depends on whether Quiet element overlaps with restriced TWT SP.

C: change ”will follow” to ”shall follow”.

C: Why do you add broadcast TWT?

A: I received some comments that broadcast TWT should be used for restricted TWT.

The SP was deferred.

The chair asked whether there are any other business before adjourning the meeting. No repsponse.

The teleconference was adjourned at 11:58am

**Thursday 25 February 2021, 07:00pm – 10:00pm ET (TGbe MAC ad hoc conference call)**

Chairman: Jeongki Kim (LG Electronics)

Secretary: Liwen Chu (NXP)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, LG) calls the meeting to order at 07:01pm EDT. The Chair introduces himself and the Secretary, Liwen (NXP)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
   1. Nobody responds.
3. The Chair goes through the IEEE copyright policy.
4. The Chair recommends using IMAT for recording the attendance.
   * Please record your attendance during the conference call by using the IMAT system:
     1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbe <MAC/PHY/Joint> conference call that you are attending.
   * If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Liwen Chu ([liwen.chu@nxp.com](mailto:liwen.chu@nxp.com)) and Jeongki Kim ([jeongki.kim@lge.com](mailto:jeongki.kim@lge.com))
5. The chair announced after 85minutes, technical contributions will be discussed.
6. The Chair asked whether there is comment about agenda in 11-20/1917r29. The revision numbers of sereval contributions were updated per the requests. The revision numbers of several contributions were updated. The modified agenda was approved.

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

**Submissions**

1. [974r4](https://mentor.ieee.org/802.11/dcn/20/11-20-0974-04-00be-channel-access-for-str-ap-mld-with-non-str-non-ap-mld.pptx) Channel Access for STR AP MLD with non-STR non-AP MLD Liangxiao Xin [1 SP]

Discussion of SP2.

C: how frequently the CW of two links are same?

A: it depends on the channel condition.

C: what if two different links have different ACs for the backoff?

A: the SP only talks about the case where CW in multiple links are same.

SP2

* **Do you support to include the following in TGbe?**
  + A NSTR MLD STA may initialize the random back-off counter in multiple links to one value using the same random number generator when the CW of those links are same. The count down on those links is independent and depends on the channel condition

21Y, 34N, 20A

.

1. [1046r13](https://mentor.ieee.org/802.11/dcn/20/11-20-1046-13-00be-prioritized-edca-channel-access-slot-management.pptx) Prioritized EDCA channel access - slot management Chunyu Hu [1 SP]

Discussion of SP4.

C: what does per STA mean?

A: regardless of broadcast, the negotiation is between the STA and AP.

C: what you want to say is to change the TWT setup procedure.

A: let me hear more feedbacks.

C: the difference is that you want to add TID restriction, right?

A: yes.

C: what do you mean by indicating TID?

A: the restricted TWT will be restriced to specific TIDs.

C: does the TID restriction apply to single STA or all STAs.

A: applies to each STA differently.

C: will the TWT SP end earlier if the respective TIDs are serviced without using all the SP?

A: the usage of TWT SP is not in the scope of this SP.

SP 4

* Do you agree to the following for R1:
  + Expand the TWT setup procedure to specify that frames from only a (set of) TID(s) may be exchanged during the restricted TWT SPs that the STA is a member of

43Y, 15N, 25A

1. [296r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0296-00-00be-cr-for-35-3-3.docx) CR for 35.3.3 Po-Kai Huang

Discussion.

C: one thing shoud be done is different type of frames shoud be broken down based on frame types.

A: I think what you mean is about A3, A4. A3 has some debate.

C: please clarify that note that MLD address may be same as link address.

A: the note is ”might” requirement.

The PS was deferred

1. [250r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0250-00-00be-cc34-resolution-for-cids-related-to-mlo-power-save.docx) CC34 resolution for CIDs related to MLO Power-save Abhishek Patil

SP

Do you agree to the resolutions provided in doc 11-21/0250r2 for the following CIDs: 1027, 2561, 1107, 3411, 1108, 2090, 2282, 2356, 3255, 2325, 1167, 2601, 1695, 3031, 1168, 2252, 3032, 1818, 1696, 3321, 1635, 3203, 2326, 1169

Approved with unanimous consent.

1. [252r0](https://mentor.ieee.org/802.11/dcn/21/11-21-0252-00-00be-cc34-resolution-for-misc-cids-related-to-clause-9-11.docx) Resolution for Miscellaneous CIDs related to Clause 9 and Clause 11 Gaurang Naik

The SP was deferred

The chair asked whether there are any other business before adjourning the meeting. No repsponse.

The teleconference was adjourned at 09:59pm